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**Government of Maharashtra  
Water Resources Department  
Aurangabad**

**STANDARD OPERATING PROCEDURE  
FOR FLOOD CONTROL  
FOR ISAPUR DAM  
(UPPER PENGANGA PROJECT)**

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**Nanded Irrigation Circle, Nanded  
Upper Penganga Project Division No.1,  
Nanded**

**JUNE - 2015**

# Standard Operating Procedure for Flood Control

## INDEX

Chapter No.	Particular	Page No.
1.0	Preamble	01
2.0	Objectives Of SOP	02
3.0	Pre-monsoon activities	03 - 08
4.0	Activities during monsoon.	09 – 11
5.0	Post monsoon activities.	12
6.0	Appendices	
	Appendix-I Reservoir operation Procedure.	13 - 14
	Appendix-II Communication Protocol for Government/ Projects/ Trigger Mechanism	15 - 29
	Appendix-III Communication Protocol for Non- Government Projects	30 - 32
	Appendix-IV Communication protocol for Inter-state project.	33 – 34
	Appendix-V Preparedness checklist for Superintending Engineer	35
	Appendix-VI Preparedness checklist for Executive Engineer	36
	Appendix-VII Communication/Action Chart	37 – 55
	Appendix-VIII List of Phone Numbers of Officers	56 - 60
	Appendix-IX Administrative Preparation	61
	Definitions	62
	Abbreviations	63

## **CHAPTER NO. 1**

### **PREAMBLE**

Seven percent of the total geographic area of Maharashtra is flood prone, and this area is distributed across the State. The dams constructed in the State are primarily designed for water storage and not as flood control measures.

The recurring flood losses hamper the economic development of the state. It is a constant threat to the population residing in the area where inundations occur frequently. Unplanned development and increased encroachments in flood plains have contributed to the intensity of floods in the rivers. The situation calls for improved flood preparedness in order to ensure that appropriate and effective response measures are taken during flood emergency and thereby minimize the loss of life, property and environment. Apart from an effective disaster response system, it is important to have an effective flood prevention and mitigation strategy to reduce the vulnerability.

Thus far, flood control measures have been undertaken through planned pre-monsoon meetings at different levels- from the project level to the State level. These coordination meetings envisage exchange of information and specific coordination activities among authorities responsible for flood management, and sensitization for premonsoon & monsoon activities.

The Government of Maharashtra, Department of Water Resources, and the Directorate of Disaster Management felt the need for standardizing the operating procedures. With this in view the Department of Water Resources has prepared the SoP for flood management (intra-State and inter-State).

#### **1.1 GENERAL OPERATIONS OF DAMS**

The primary requirement of dams is to plan the outflows in such a manner that by the end of the monsoons the reservoirs are filled to 100% capacity, subject to the adequacy of rainfall. The operation of each gated dam is regulated through a Reservoir Operation Schedule (ROS) that lays out the schedule of releases. The ROS is prepared on the basis of fortnightly reports 95% dependable yields during the monsoon. As per the ROS the reservoirs are kept at lower levels in order to have absorption capacity to accommodate flood water and thereby enable controlled discharges through spillway gates.

Water managers face the challenge of controlling the outflows while at the same time maintaining reservoir levels such that they are filled by the end of the monsoon. The increasingly inconsistent pattern of rainfall and its uneven distribution due to climate change have increased the difficulty of this task.

## CHAPTER NO. 2

### OBJECTIVES OF SOP

This SOP aims at taking timely action with a view to prevent or minimize damage to human and animal life and to property and environment in and around the river. This will be done by improving systematic coordination among Departments and stakeholders, and streamlining communication at all levels of decision making. Objectives are as follows:-

- i) Identify hazard potential on downstream of the dam.
- ii) Monitor flood situation.
- iii) Warning about probable floods in advance, to have advance action.
- iv) Monitor and protect irrigation as well as all other infrastructures created and protection of Human lives & live stocks .
- v) Restore damaged infrastructure due to floods.

#### **2.1 The SOPs are prepared for-**

- i) All gated dams with manual, electrical or mechanical power operated gates, irrespective of the storage capacity or spillway discharging capacity.
- ii) All dams with gross storage capacity of 150 Mcum or more.
- iii) All dams with a spillway discharging capacity more than 3000 cumecs irrespective of storage.

#### **2.2 Components of the Standard Operating Procedure.**

- i) Pre monsoon preparations.  
Appointment of flood control officers.  
Fixing duties & responsibilities of flood control officers.
- ii) Operating procedure during the monsoon.  
Flood control measures to be taken at dam site.  
Action to be taken by Water Resources Department.  
Actions to be taken by other Departments of the Government.
- iii) Post monsoon inspections of damage and distress in dam and in river.

All Dams shall be inspected by the responsible relevant officer as instructed in Government Circulars and manuals, the works related with Dam Safety and require for flood control shall be taken on priority & completed by WRD officers.



## CHAPTER NO. 3

### PRE-MONSOON ACTIVITIES

#### 3.1 Administrative preparation

- Guidelines for co-ordination meeting is appended in Appendix-
- In the above meeting the updated list of officers & their phone numbers, e-mail address along with previous experiences regarding flood shall be shared.
- Identify hazard potential downstream of Dam.
- EAP preparation for all Dams.
- Establishing Flood control cell at district headquarters & regional headquarters

#### 3.2 Appointment of Flood Control Officer.

As per directives given in Govt. resolution 1) flood control-district 2009/(186/09)/IM(W) dated 16.04.2009 & 2) Flood Control-basin 2009/(187/09)/IM(W) dated 5.5.2009, Flood Control Officers shall be appointed as below :-

Stage-1: Dam Controller - Sectional Engineer

Stage-2: Deputy Flood Control Officer - Sub Divisional Engineer..

Stage-3: Divisional Flood Control Officer - Executive Engineer..

Stage-4: District Co-ordination Officer - Superintending Engineer.

Stage-5: Basin Flood Control Officer - Chief Engineer.

#### 3.3 Preparation at Dam sites:-

- Carry out the pre-monsoon inspection; attend to the deficiencies that are critical for the safety of dam.
- Ensure proper operation of Gates, check electric supply, and make back-up arrangements for generator.
- Make sure there is sufficient manpower for flood related operations.
- Reservoir Operation Schedule be placed at visible location on dam site.

Declaration of Response Mechanism of concerned line departments along with the role & responsibilities.

### **3.4 Trigger Mechanism:**

The plan of action is to be prepared taking into consideration the situation at a given point of time. The Plan is to indicate the level of disaster, the type of response, communication sequence and actions of officers / State. For this, it is necessary to develop a concept of (L) and define the different levels of disasters/ situations/ events in order to facilitate the responses and immediate assistances at district level, commissioner level and state level.

#### **L<sub>0</sub> Level: (Preparedness Level)**

This denotes the pre-monsoon period when the following preparatory activities are undertaken:- preparation of documentation regarding EAP, ROS, BOS & Commination proto call shall be prepared, establishment of flood control cells / Disaster management cells, rehearsal of Dam gate operations, removal of encroachments from river flood plain zone (area within blue line) by civic authorities, in urban area by municipal corporation and rural area by CEO, Zilla Parashid, co-ordination meetings, reading of SOP; Training of field officers and study of Emergency action plans for response activities will also be carried out during this period.

#### **L<sub>1</sub> Level: (Normal Level)**

This specifies the floods that can be managed by Dam controller, Deputy flood control officer and Divisional flood control Officers / Block and Tahsil level. This denotes normal release of discharges from spillway of dam. The water levels in the rivers are within the river boundaries. Requires warning to the downstream population that releases from dam has started.

#### **L<sub>2</sub> Level: (Alert Level)**

This denotes floods of Alert levels that can be managed at district level. The discharges in the rivers are at such a level that rivers are flowing with maximum discharge carrying capacities, and little addition of discharge from spillway or due to rainfall in free catchment area is likely to spread the inundation beyond the river boundaries.

#### **L<sub>3</sub> Level: (Danger level)**

This specifies the floods likely to create situations which require active participation and assistance of various departments at District level and Regional level for mobilizing resources for management of damage due to floods. However the state will remain in readiness to provide assistance if needed.

#### **L<sub>4</sub> Level: (Disaster level)**

This specifies flood levels which create a large scale disaster situation with large inundation of areas where the district and regional level authorities have been overwhelmed and require assistance from state level / Control level for rescue, relief, other responses and recovery measures.

The scale and intensity of disaster shall be determined by Revenue authorities with the assistance of Technical Agencies like Water Resources Department, IMD. The District Collector is authorized to decide on the level of disaster.

The controlling flood levels viz L1 Level: (Normal Level), L2 Level: (Alert Level), L3 Level: (Danger level) & L4 Level: (Disaster level) will be specified in Appendix no. VI for each project separately

#### **3.5 Action to be taken by authorities of Water Resources Department.**

- i. Executive Engineer in charge of dam shall prepare flood prone area maps and identify the areas located within the flood zone of the river.
  - a. Flood lines corresponding to 25 years return period flood.(Blue line)
  - b. Flood lines corresponding to 100 years return period or the spillway design outflow flood, whichever is higher. (Red line)
  - c. All populated urban areas, towns, gaothans, installations and engineering works located in above flood zones.
  - d. Flood plain zoning and land use governance is required to avoid critical flood situation in populated urban areas.
  - e. Marking of Blue lines and Red lines shall be carried out by local bodies in rural area by Zilla Parishad, and in urban area by Nagar Palika for Municipal Corporation with the help of Executive Engineer of WRD and shall be completed before 15<sup>th</sup> May.

These inundation maps should be approved by Regional Chief Engineer for major projects, by Superintending Engineer for medium projects and by Executive Engineer for minor projects.
- ii. Warning the concerned Government departments, non-government agencies and public in general about the probable flood plain zone by giving wide publication in news papers and mass media.
- iii. Collection of hydrological data is important in accurately forecasting the floods. A representative network of data collection such as rain gauge, river gauge shall be established.



- iv. A network of communication system such as wireless system, telephone, mobile phones shall be established to connect various data collection stations with base station to enable efficient communication. This will be incorporated in project level in standard format given in Appendix VIII
- v. Executive Engineer will prepare report as specified in Appendix No. VI about preparedness for effective flood control and submit to Superintending Engineer.
- vi. Superintending Engineer will prepare a report as specified in Appendix- V about preparedness for effective flood control and submit it to Chief Engineer.
- vii. Chief Engineer will submit report about Flood Control and mitigation measures taken to Government before 15<sup>th</sup> November every year.
- viii. Prepare Basin-wise directory about the information and contact numbers of Flood Control Officers at all levels. Information and contact numbers of Officers of other department's viz. Revenue, Police and Rehabilitation department shall be communicated to the Secretary of the concern State and Flood control cell of WRD, Mantralaya.

### **3.6 Action to be taken by other Government departments and Local Governing bodies.**

- i. A District Flood Co-ordination Committee (DFCC) to be setup in each flood affected district to co-ordinate the working of the flood warning system and to take suitable precaution for evacuating the population and keeping proper vigilance at vulnerable points.
- ii. The District Collector should arrange to set up DFCC for the District. The DFCC may consist of the following officers subject to modification according to local requirements.
  - a. District Collector.
  - b. Chief Executive Officer, Zilla Parishad.
  - c. Superintending Engineer of Irrigation Management Circle in District.
  - d. Superintendent of Police of the District.
  - e. Executive Engineer in-charge of Irrigation management in District.
  - f. Executive Engineer of Public Works & Housing Department.
  - g. Representative of Post & Telegraph Department.
  - h. Representative of the India Meteorological Department.
  - i. Representative of the Railway, if any railway works are involved.
  - j. Representative of the Road Transport.
  - k. Representative of the Regional Transport.
  - l. Representative of the civil supplies.

- m. Representative of the Police Wireless.
  - n. District Health Officer.
  - o. District Commandant of Home Guards.
  - p. A representative of All India Radio & Television.
- iii. The District Collector shall be the Chairman of the DFCC.
  - iv. Any other person considered useful by the Committee may be co-opted as a member of the Committee.
  - v. DFCC should establish separate committees for towns and villages which are likely to be affected by flood within the district.
  - vi. DFCC should take all the precautions for flood mitigation during the flood and necessary measures after the floods.

Flood forecasting, flood control & mitigation are indispensable in efficient and safe operation of large reservoirs and protection of flood-prone populated areas and installations on the banks of major rivers or on the downstream of important dams.

Flood committees comprising of the following persons may be formed in the towns and villages.

- a. Assistant Collector/ SDO, Tahsildar, BDO Chief Executive Officer or
- b. Sarpanch as the Chairman
- c. Local Police Station in-charge or the Police Patil
- d. Gramsevak
- e. Chairman of the village farmers Co-operative society
- f. Head Master of the Village School.

### **3.7 Demarcation of Alert, Danger & Disaster levels.**

This will be the primary responsibility of local bodies, namely the Executive Engineer of the Zilla Parishad for rural area and in case of urban area the City Engineer of Municipal Corporation/ Council. These markings shall done with help of Engineers of WRD.

(L2) Alert, (L3) Danger & (L4) Disaster level shall be marked in each habitation viz, rural & urban area. This shall be marked at prominent places near river banks & residential area, e.g. bridges, temples, public buildings & houses. These marking shall also be co-related to discharges through rivers before 15th May.

Various warning signals L1 Level: (Normal Level), L2 Level: (Alert Level), L3 Level: (Danger level) & L4 Level: (Disaster level) are issued by Divisional flood control Officer knowledge of people and Govt. agencies. By knowing the type of warning signals the people will aware of level of flood and related affecting area.

### **3.8 Selection of Safe places for shifting of people.**

All local Government bodies, Municipal Corporation / Council and Zilla Parishad shall select safe places for rehabilitation during flood. These shall be conveyed / informed to people by radio, and notices at public places or by proper announcements.

## CHAPTER NO. 4

### ACTIVITIES DURING MONSOON

#### **4.1 Functions and responsibilities of Dam Controller**

- 4.1.1 During monsoon, inspect and remove obstructions, debris, vegetation near gates, outlets, spillway, approach & tail channel so as to keep the waterway unobstructed.
- 4.1.2 Inspect, monitor and carry out necessary repairs of machinery and equipments, electrical components on the dam-site i.e. Generator, Motors, Gate hoist system, electrical fittings, pumps in drainage gallery, lights and communication arrangements on site.
- 4.1.3 Inspect instrumentation installed on dam, take observations and submit the same to higher officers daily.
- 4.1.4 Round the clock inspection and monitoring of dam structure, gates, bridges on the downstream side of the dam, approach & tail channel
- 4.1.5 Hydrological data regarding rainfall at dam site and catchment area, inflow into the reservoir, reservoir levels, discharge required to be released shall be informed to flood control cell and higher level officers at standard stipulated time, and immediately in case of emergency, as specified in Appendix-II and Appendix-VII.

#### **4.2 Functions and responsibilities of Deputy Flood Control Officer**

- 4.2.1 Monitor if dams controllers are carrying out their duties and functions and report daily to the Divisional Flood Control Officer.
- 4.2.2 Inform Tahsildar, BDO of concerned Taluka 24 hours before planned release of flood over spillway of the dam and in case of L2, L3 and L4 level situation one hour before release of flood over spillway.
- 4.2.3 Inform Sarpanch and Gramsavak of concerned villages on bank of river downstream of Dam.
- 4.2.4 Inspect Dams, electrical and Mechanical equipments. Regularly during monsoon period.
- 4.2.5 Co-ordination of rainfall inflow and outflows from various dams in the same basin/ sub-basin and communicate to Executive Engineer and the Flood Control Cell in case of emergency, as specified in Appendix -II and Appendix-VII.

### **4.3 Functions and Responsibilities of Divisional Flood Control Officer**

- 4.3.1 Inspect and carry out necessary repair of equipment, machinery, gates, outlets and instruments. Providing required materials such as instruments, fuel etc. to dam site.
- 4.3.2 Provide real time information regarding hydrological data viz. rainfall in the catchment area, inflow in the reservoir, dam levels, discharge from dam to District Co-ordination Officer and central flood control cell of WRD and flood control cells of concerned District Collector, as specified in Appendix -II and Appendix-VII.
- 4.3.3 Inform Government and Non government agencies about probable flood in the river on downstream of dam as mentioned Appendix VII.

### **4.4 Functions and Responsibilities of District Co-ordination Officer :**

- 4.4.1 Inform to Basin Flood Control Officer during critical flood situation about rainfall & releases from various dams under his control and follow instructions given by Basin Control Officer,
- 4.4.2 Regulate releases of discharges through dams during flood situation in river basin as a whole; communicate with Basin Flood Control Officer frequently to update him about the flood situation and inflows possible in various reservoirs,
- 4.4.3 Handle floods in the basin / sub basin. Monitor Dam Safety, safety of population on downstream of dam, reservoir operations as per approved Reservoir Operation Schedule by Chief Engineer.
- 4.4.4 Inform revenue authorities, regarding release of discharges from dams in monsoon viz. Collector, Superintendent of police etc.
- 4.4.5 Co-ordination and communication of information about the flood situation with, Municipal Corporation, local bodies, Revenue Department, Police department, along with suggestion of advance action if required. (as specified in Appendix -II and Appendix-VII).
- 4.4.6 Communicate to the public in general data such as flood prone towns and villages, warning water levels and danger water levels, discharges in rivers through print & electronic media, before onset of monsoon and during flood situations.

### **4.5 Functions and Responsibilities of Basin Flood Control Officer**

- 4.5.1 Inform Government about flood control officers at all levels, with their names, address, contact numbers, email address etc, as specified in Appendix -II and Appendix-VII.
- 4.5.2 Co-ordinate releases through various dams in the basin/sub basin and take mitigation measures for effective flood control based on real time situation.

4.5.3 Inform and communicate with public and media about the flood situation. Inform public through web site, specially prepared for flood control.

4.5.4 Inform Minister and Principal Secretary of Water Resources Department about the flood situation and update them on flood related information in case of emergency and danger situations.

Regional Chief Engineers shall give all the information, required hydrological data to concerned Basin Flood Control Officer. Regional Chief Engineers should co-ordinate with Basin Flood Control Officer to carryout Flood Control and mitigation effectively.

#### **4.6 Function and Responsibilities of Inter State Flood Control Liasioning**

##### **Officer**

Inter State flood control & Liasioning Officer shall be appointed for Flood control of dams having impacts of floods on multiple states.

Duties of Inter State Flood Control and Liasioning Officer are follows

4.6.1 Communicate with officers of concerned State and exchange hydrological data with them on a daily basis. During critical flood situations exchange of above data shall be made hourly or at closer intervals as necessitated.

#### **4.7 Function and Responsibilities of Executive Directors of Corporations**

Executive Directors of all Irrigation Development Corporations should take review of flood situation in the river basin/sub basins in their jurisdiction after L1 level. Executive Directors should have general control over flood situation & mitigation.

## **CHAPTER NO. 5**

### **POST-MONSOON ACTIVITIES**

In general, floods do not occur after 15<sup>th</sup> October. However, in the context of climatic changes it is necessary that preparedness shall be continued till 30<sup>th</sup> November.

Normally, most of the dams reach at their full storage capacity upto 15<sup>th</sup> Oct. After 15<sup>th</sup> Oct. all the inflow which reaches in to the dam is required to be discharged over the spillway in to the river. Hence more alertness is required even after 15<sup>th</sup> Oct. upto 30<sup>th</sup> November.

Post monsoon inspection of Dams and river shall be carried out as per dam safety manual. Remedial measures for damages if any shall be under taken. Preventive measures for future period shall also be under taken.

Annual Basin flood control report shall be submitted to government by Basin flood control officer (i.e. Chief Engineer) before 31<sup>st</sup> December.

## CHAPTER NO. 6

### APPENDICES

#### Appendix No. I

##### Reservoir operation procedure.

#### 1) Principles of reservoir operation :

- i. Normally for Irrigation, water supply and hydro power project it is desirable to fill the reservoir as early as possible. While doing so, it should also be seen that the lake level is not brought near FRL too early in monsoon.
- ii. The adequacy of the spillway capacity and the free board considering design flood & observed floods should be periodically reviewed in the light of observed data. Such data should be continuously built up during the course of operation of reservoir by maintaining the registers.
- iii. For gated reservoir flood control requirements will govern the reservoir operation during such period of the monsoon when the floods are more severe. However, the reservoir has to be full at the end of the monsoon. The conservative requirements should also be kept in view while handling the flood situations.
- iv. The reservoir operation should involve a careful co-ordination between the flood disposal and the building up of the conservative storage. Any error in operation of gates may endanger the safety of the dam or may cause artificial floods on downstream & or waste full spills and the reservoir may not be filled up as required in spite of adequate rain.

#### 2) Guide curves for reservoir operation:

The guide curves shows the limits to which the reservoir water levels should be normally raise at the end of specified periods for achieving the normal planned storage of the reservoir while availing of the flood absorption capacity to the greater possible extend during the specified period.

The guide curves are made up of an upper guide curve and the lower guide curve.

- i. The upper guide curve is the upper limit of the level up to which the water level in reservoir can be built up or maintained on the respective dates. During the period of severe floods, water level the reservoir may be allowed to rise temporarily above the upper guide curve but below the MWL at the discretion of the Officer not below the rank of Executive Engineer.



- ii. Lower guide curve indicates the minimum water levels up to which the reservoir filling must be achieved on various dates during the monsoon from the point of filling the reservoir.
- iii. Revision in Reservoir Operation Schedule: The Reservoir Operation Schedule shall be revised after every 5 years considering in flow pattern.

**3) Gate Operation Schedule**

The gate operation schedule must be prepared based on the site condition, the result of model studies and the regulation schedule of the reservoir. The gate operation schedule should clearly indicate the complete sequence and stages of operation of various gates corresponding to various lake levels and flood situations.

## Appendix- II

### COMMUNICATION PROTOCOL FOR GOVERNMENT PROJECTS.

#### UPPER PENGANGA PROJECT(ISAPUR DAM)

#### Trigger Mechanism

##### 1. Preparedness Level (L<sub>0</sub> Level)

In monsoon period sectional officer of Dam shall inform to Dy. Engineer and Ex. Engineer at Local level & Dy. Engineer will communicate to flood control Cell

Sr. No.	Trigger Level L <sub>0</sub> preparedness level	Who will communicate	To Whom	How & what
1	In the premonsoon period the documents regarding E.A.P., R.O.S., Communication protocol has been prepared. Rehearsal of Dam gate (Spillway Gate) operations has been done. Necessary instructions to the staff has been given. Trial of all Generators @ Dam site has been carried out and keep them ready.	Sub. Divisional Officer, Upper Penganga Irrigation Sub. Division No. 1, Penganganagar Tq. Pusad Dist. Yeotmal. 8411911980	Executive Engineer, Upper Penganga Project. Division. No. 1, Nanded. 02462 260820 9689922035	Phone/SMS Stroage

##### 2. Normal Level (L<sub>1</sub> Level)

In above situations flood shall be ascertained separately for each project and integrated also before reaching to this situation, following communication method shall be adapted by telephone, wireless, email & fax.

Sr. No.	Trigger Level	Who will communicate	To Whom	How & what
1	<b>412.405</b> @ Dist. of <b>2.60</b> km from Isapur Dam near village Dongargaon Naka Tq. Kalamnuri (Discharge 4995 Cumecs)	Executive Engineer, Upper Penganga Project Division No.1 Nanded. uppd9_nanded@dataone.in 02462 260820 9689922035	1) Superintending Engineer, Nanded Irrigation Circle, Nanded. senic_nanded@wrd.maharashtra.gov.in 02462 - 262460 02462 - 261165 02462 - 263870 9922479886. 2) Chief Engineer, W.R.D. Regional Office Aurangabad.cewrd_abad@wrd.maharashtra.gov.in	E-mail /Phone/SMS/ Wireless Rainfall & outflows of dams/Rivers

			0240 - 2351617 0240 - 2331249	
2	411.005 @ Dist. of 3.70 km from Isapur Dam near village Devgavan Tq. Pusad (Discharge 5018 Cumecs)	Executive Engineer, Upper Penganga Project Division No.1 Nanded. uppd <sup>9</sup> _nanded@dataone.in 02462- 260820 9689922035	1) Superintending Engineer, Nanded Irrigation Circle, Nanded. senic_nanded@wrd.maharashtra.gov.in 02462 - 262460 02462 - 261165 02462 - 263870 9922479886. 2) Chief Engineer, W.R.D. Regional Office Aurangabad.ce wrd_abad@wrd.maharashtra.gov.in 0240 - 2351617 0240 - 2331249	E-mail /Phone/SMS/ Wireless Rainfall & outflows of dams/Rivers
3	409.140 @ Dist. of 6.77 km from Isapur Dam near village Gangapur Tq. Hadgaon (Discharge 5765 Cumecs)	-- do --	-- do --	-- do --
4	409.500 @ Dist. of 6.900 km from Isapur Dam on Gangapur Bridge Tq. Hadgaon (Discharge 5771 Cumecs)	-- do --	-- do --	-- do --
5	409.555 @ Dist. of 7.600 km from Isapur Dam near village Shiur Tq. Hadgaon (Discharge 5784 Cumecs)	-- do --	-- do --	-- do --
6	407.535 @ Dist. of 10.00 km from Isapur Dam near village Gowl (Bk) Tq. Pusad. (Discharge 5933 Cumecs)	-- do --	-- do --	-- do --
7	409.925 @ Dist. of 10.300 km from Isapur Dam near village Irapur Tq. Hadgaon (Discharge 5953 Cumecs)	-- do --	-- do --	-- do --
8	409.000 @ Dist. of 13.00 km from Isapur Dam near village Bhambarkhed Tq. Umarkhed. (Discharge 6403 Cumecs)	-- do --	-- do --	-- do --

9	410.715 @ Dist. of 13.700 km from Isapur Dam near village Waki Tq. Hadgaon (Discharge 6519 Cumecs)	Executive Engineer, Upper Penganga Project Division No.1 Nanded. uppd9_nanded@ dataone.in 02462- 260820 9689922035	1) Superintending Engineer, Nanded Irrigation Circle, Nanded. senic_nanded@wrd. maharashtra.gov.in 02462 - 262460 02462 - 261165 02462 - 263870 9922479886. 2) Chief Engineer, W.R.D. Regional Office Aurangabad.ce wrd_ abad@wrd.maharas htra.gov.in 0240 - 2351617 0240 - 2331249	E-mail /Phone/SMS/ Wireless Rainfall & outflows of dams/Rivers
10	410.070 @ Dist. of 14.600 km from Isapur Dam near village Zadeगाon Tq. Umarkhed. (Discharge 6771 Cumecs)	-- do --	-- do --	-- do --
11	407.695 @ Dist. of 15.600 km from Isapur Dam near village Tiwarang Tq. Umarkhed. (Discharge 6897 Cumecs)	-- do --	-- do --	-- do --
12	407.785 @ Dist. of 16.500 km from Isapur Dam near village Manula (Kd) Tq. Hadgaon. (Discharge 7036 Cumecs)	-- do --	-- do --	-- do --
13	404.510 @ Dist. of 20.240 km from Isapur Dam near village Haatale Tq, Umarkhed. (Discharge 7504 Cumecs)	-- do --	-- do --	-- do --
14	405.335 @ Dist. of 23.410 km from Isapur Dam near village Pimpri Diwat Tq. Umarkhed. (Discharge 8283 Cumecs)	-- do --	-- do --	-- do --
15	403.315 @ Dist. of 24.900 km from Isapur Dam near village Manula (Bk) Tq. Hadgaon. (Discharge 8318 Cumecs)	-- do --	-- do --	-- do --

16	401.550 @ Dist. of 26.360 km from Isapur Dam near village Palasi Tq. Umarkhed. (Discharge 8438 Cumecs)	Executive Engineer, Upper Penganga Project Division No.1 Nanded. uppd9_nanded@ dataone.in 02462- 260820 9689922035	1) Superintending Engineer, Nanded Irrigation Circle, Nanded. senic_nanded@wrd. maharashtra.gov.in 02462 - 262460 02462 - 261165 02462 - 263870 9922479886. 2) Chief Engineer, W.R.D. Regional Office Aurangabad.cewr abad@wrd.maharas htra.gov.in 0240 - 2351617 0240 - 2331249	E-mail /Phone/SMS/ Wireless Rainfall & outflows of dams/Rivers
17	404.190 @ Dist. of 28.180 km from Isapur Dam near village Matala Tq. Hadgaon. (Discharge 8670 Cumecs)	-- do --	-- do --	-- do --
18	405.170 @ Dist. of 30.740 km from Isapur Dam near village Bare Tq. Umarkhed. (Discharge 9032 Cumecs)	-- do --	-- do --	-- do --
19	405.400 @ Dist. of 31.915 km from Isapur Dam near village Belkhed Tq. Umarkhed. (Discharge 9239 Cumecs)	-- do --	-- do --	-- do --
20	404.280 @ Dist. of 36.07 km from Isapur Dam near village Pewa Tq. Hadgaon. (Discharge 9725 Cumecs)	-- do --	-- do --	-- do --
21	403.800 @ Dist. of 37.375 km from Isapur Dam near village Karodi Tq. Hadgaon. (Discharge 9750 Cumecs)	-- do --	-- do --	-- do --
22	404.095 @ Dist. of 39.260 km from Isapur Dam near village Kaleshwar Tq. Hadgaon. (Discharge 10554 Cumecs)	-- do --	-- do --	-- do --

23	405.550 @ Dist. of 42.680 km from Isapur Dam near village Chincholi sangam Tq. Umarkhed. (Discharge 21835 Cumecs)	-- do --	-- do --	-- do --
24	402.730 @ Dist. of 43.400 km from Isapur Dam near village Gojegaon Tq. Hadgaon. (Discharge 21878 Cumecs)	-- do --	-- do --	-- do --
25	405.060 @ Dist. of 42.275 km from Isapur Dam on Gojegaon Bridge Tq. Hadgaon (Discharge 22058 Cumecs)	-- do --	-- do --	-- do --

### 3. Alert Level (L2 Level)

In Alert situations flood shall be ascertained separately for each project and integrated also before reaching to this situation, following communication method shall be adapted by telephone, wireless, email & fax.

Sr. No.	Trigger Level	Who will communicate	To Whom	How & what
1	<b>414.345</b> @ Dist. of <b>2.60</b> km from Isapur Dam near village Dongargaon Naka Tq. Kalamnuri (Discharge 9842 Cumecs)	Executive Engineer, Upper Penganga Project. Division No.1, Nanded. uppd1_nanded @ dataone.in 02462-260820 9689922035	1) Superintending Engineer, Nanded Irrigation Circle, Nanded. senic_nanded@wr d.maharashtra.gov.i n 02462 - 262460 02462 - 261165 02462 - 263870 9922479886. 2) Collector Nanded nnd@gmail.com 02462 - 237101 02462 - 238500  3) Collector Hingoli, hincollector@gmail. com 02456 -221701 02456 - 221464	E-mail /Phone/SMS/ Wireless Rainfall & outflows of dams/Rivers

			<p>4) Collector Yeotmal, Coll_yavatmal@rediffmail.com 07232 - 242501_07232 - 242211</p> <p>5) Municipal Commissioner Nanded 02462 234405</p>	
		<p>2) Superintending Engineer, Nanded Irrigation Circle, Nanded. senic_nanded@wrmdmaharashtra.gov.in 02462- 262460 02462- 261165 02462- 263870 9922479886.</p>	<p>1) Chief Engineer, W.R.D.Aurangabad ce wrd_abad@ wrd.maharashtra.gov.in 0240 - 2351617 0240 - 2331249</p> <p>2) Press Note, Nanded</p> <p>3) Zilla Mahiti Adhikari, Nanded. 02462-250137 02462- 250125</p> <p>4) Akashwani Kendra Nanded 02462-226534 02462-226572</p> <p>5) Doordharshan Kendra Nanded. 02462 - 226067</p>	
2	412.655 @ Dist. of 3.70 km from Isapur Dam near village Devgavan Tq. Pusad (Discharge 9865 Cumecs)	-- do --	-- do --	-- do --
3	410.535 @ Dist. of 6.77 km from Isapur Dam near village Gangapur Tq. Hadgaon (Discharge 10612 Cumecs)	-- do --	-- do --	-- do --
4	410.800 @ Dist. of 6.900 km from Isapur Dam on Gangapur Bridge Tq. Hadgaon (Discharge 10618 Cumecs)	-- do --	-- do --	-- do --

5	410.960 @ Dist. of 7.600 km from Isapur Dam near village Shiur Tq. Hadgaon (Discharge 10632 Cumeecs)	-- do --	-- do --	-- do --
6	409.405 @ Dist. of 10.00 km from Isapur Dam near village Gowl (Bk) Tq. Pusad. (Discharge 10780 Cumeecs)	-- do --	-- do --	-- do --
7	411.250 @ Dist. of 10.300km from Isapur Dam near village Irapur Tq.Hadgaon (Discharge 10800 Cumeecs)	-- do --	-- do --	-- do --
8	410.300 @ Dist. of 13.00 km from Isapur Dam near village Bhambarkhed Tq. Umarkhed. (Discharge 11250 Cumeecs)	-- do --	-- do --	-- do --
9	412.130 @ Dist. of 13.700 km from Isapur Dam near village WakiTq. Hadgaon (Discharge 11366 Cumeecs)	-- do --	-- do --	-- do --
10	411.610 @ Dist. of 14.600 km from Isapur Dam near village Zadegaon Tq. Umarkhed (Discharge 11618 Cumeecs)	-- do --	-- do --	-- do --
11	408.765 @ Dist. of 15.600 km from Isapur Dam near village Tiwarang Tq. Umarkhed. (Discharge 11744 Cumeecs)	-- do --	-- do --	-- do --
12	408.720 @ Dist. of 16.500 km from Isapur Dam near village Manula (Kd) Tq. Hadgaon. (Discharge 11883 Cumeecs)	-- do --	-- do --	-- do --
13	406.580 @ Dist. of 20.240 km from Isapur Dam near village Haatale Tq, Umarkhed. (Discharge 12351 Cumeecs)	-- do --	-- do --	-- do --



14	407.530 @ Dist. of 23.410 km from Isapur Dam near village Pimpri Diwat Tq. Umarkhed. (Discharge 13130 Cumeecs)	-- do --	-- do --	-- do --
15	405.365 @ Dist. of 24.900 km from Isapur Dam near village Manula (Bk) Tq. Hadgaon. (Discharge 13165 Cumeecs)	-- do --	-- do --	-- do --
16	402.700 @ Dist. of 26.360 km from Isapur Dam near village Palasi Tq. Umarkhed. (Discharge 13285 Cumeecs)	-- do --	-- do --	-- do --
17	405.250 @ Dist. of 28.180 km from Isapur Dam near village Matala Tq. Hadgaon. (Discharge 13517 Cumeecs)	-- do --	-- do --	-- do --
18	406.170 @ Dist. of 30.740 km from Isapur Dam near village Bare Tq. Umarkhed. (Discharge 13879 Cumeecs)	-- do --	-- do --	-- do --
19	406.470 @ Dist. of 31.915 km from Isapur Dam near village Belkhed Tq. Umarkhed. (Discharge 14086 Cumeecs)	-- do --	-- do --	-- do --
20	405.220 @ Dist. of 36.07 km from Isapur Dam near village Pewa Tq. Hadgaon. (Discharge 14572 Cumeecs)	-- do --	-- do --	-- do --
21	404.640 @ Dist. of 37.375 km from Isapur Dam near village Karodi Tq. Hadgaon. (Discharge 14597 Cumeecs)	-- do --	-- do --	-- do --
22	404.955 @ Dist. of 39.260 km from Isapur Dam near village Kaleshwar Tq. Hadgaon (Discharge 15401 Cumeecs)	-- do --	-- do --	-- do --

23	406.545 @ Dist. of 42.680 km from Isapur Dam near village Chincholi sangam Tq. Umarkhed. (Discharge 21835 Cumeecs)	-- do --	-- do --	-- do --
24	403.735 @ Dist. of 43.400 km from Isapur Dam near village Gojegaon Tq. Hadgaon. (Discharge 21878 Cumeecs)	-- do --	-- do --	-- do --
25	406.185 @ Dist. of 42.275 km from Isapur Dam on Gojegaon Bridge Tq. Hadgaon. (Discharge 22058 Cumeecs)	-- do --	-- do --	-- do --

#### 4. Danger Level (L<sub>3</sub> Level)

In case of flood discharges which are about to reach danger levels or crossing danger levels in rivers and likely to create inundation of habitations. However the disaster situation is manageable at district level and immediate relief measures are required, then this alarming situation shall be reported to highest authorities by the Chief Engineer, in-charge of Basin flood control.

Sr. No	Trigger Level	Who will communicate	To Whom	How & what
1	<b>416.870</b> @ Dist. of <b>2.60</b> km from Isapur Dam near village Dongargaon Naka Tq. Kalamnuri (Discharge 19242 Cumeecs)	Executive Engineer, Upper Penganga Project. Division. No. 1, Nanded. uppd1_nanded@ dataone.in 02462 - 260820 9689922035	1) Superintending Engineer, Nanded Irrigation Circle, Nanded. senic_nanded@wr. maharashtra.gov.in 02462 - 262460 02462 - 261165 02462 - 263870, 9922479886.  Collector Nanded nnd@gmail.com 02462 - 237101 02462 - 238500  3) Collector Hingoli, hincollector@gmail. com 02456 -221701 02456 - 221464  4) Collector Yeotmal, Coll_yavatmal@rediffm ail.com 07232 - 242501 07232 - 242211  5) Municipal Commissioner Nanded 02462 - 234405	E-mail / SMS /Phone @ every 3 hours or @ closer intervals Rainfall & outflow discharge of dams/Rivers
		2) Superintending Engineer, Nanded Irrigation Circle, Nanded. senic_nanded@ wr.d.maharashtra. gov.in 02462 - 262460 02462 - 261165 02462 - 263870 9922479886.	1) Chief Engineer, W.R.D.Aurangabad ce wrd_ abad@wr. maharashtra.gov.in 0240 - 2351617 0240 - 2331249  2) Press Note, Nanded 3) Zilla Mahiti Adhikari, Nanded. 02462 - 250137 02462 - 250125	E-mail / SMS /Phone @ every 3 hours.

			4) Akashwani Kendra Nanded 02462-226534 02462-226572 5)Doordharshan Kendra Nanded. 02462 - 226067	
		3)Chief Engineer, W.R.D.Aurangabad ce wrd_ abad@ wrd. maharashtra.gov. in 0240 - 2351617 0240 - 2331249 9325686231	1) Hon. Commissioner, Aurangabad, 0240 - 2331294 0240 - 2331221  2) Hon. principal Secretary, WRD & CADA, Mumbai 022 - 22023108 022 - 22023213  3)Hon. principal Secretary, WRD, Mumbai 022 - 22023109 022 - 22831817  4) Hon. Minister, WRD Mumbai.	E-mail / SMS /Phone @ every 3 hours.
		3) Hon. principal Secretary, WRD & CADA, Mumbai 022 - 22023108 022 - 22023213	1) Hon.Chief Minister, Govt. of Maharashtra 2)Hon.Chief Secretary, Govt. of Maharashtra 022 - 22028762 022 - 22025042	E-mail / SMS /Phone @ every 3 hours.
2	414.915 @ Dist. of 3.70 km from Isapur Dam near village Dvgavan Tq. Pusad. (Discharge 19265 Cumecs)	-- do --	-- do --	-- do --
3	412.315 @ Dist. of 6.77 km from Isapur Dam near village Gangapur Tq. Hadgaon.(Discharge 20012 Cumecs)	-- do --	-- do --	-- do --
4	412.560 @ Dist. of 6.900 km from Isapur Dam on Gangapur Bridge Tq.Hadgaon.(Discharge 20018 Cumecs)	-- do --	-- do --	-- do --
5	412.930 @ Dist. of 7.600 km from Isapur Dam near village Shiur Tq. Hadgaon. .(Discharge 20032 Cumecs)	-- do --	-- do --	-- do --

6	411.770 @ Dist. of 10.00 km from Isapur Dam near village Gowl (Bk) Tq. Pusad. .(Discharge 20180 Cumecs)	-- do --	-- do --	-- do --
7	412.635 @ Dist. of 10.300km from Isapur Dam near village Irapur Tq.Hadgaon.(Discharge 20200 Cumecs)	-- do --	-- do --	-- do --
8	411.995 @ Dist. of 13.00 km from Isapur Dam near village Bhambarkhed Tq. Umarkhed. (Discharge 20650 Cumecs)	-- do --	-- do --	-- do --
9	414.000 @ Dist. of 13.700 km from Isapur Dam near village Waki Tq. Hadgaon.(Discharge 20766 Cumecs)	-- do --	-- do --	-- do --
10	413.380 @ Dist. of 14.600 km from Isapur Dam near village Zadegaon Tq. Umarkhed.(Discharge 21019 Cumecs)	-- do --	-- do --	-- do --
11	410.330 @ Dist. of 15.600 km from Isapur Dam near village Tiwarang Tq. Umarkhed. .(Discharge 21144 Cumecs)	-- do --	-- do --	-- do --
12	410.405 @ Dist. of 16.500 km from Isapur Dam near village Manula (Kd) Tq. Hadgaon. .(Discharge 21283 Cumecs)	-- do --	-- do --	-- do --
13	407.915 @ Dist. of 20.240 km from Isapur Dam near village Haatale Tq, Umarkhed. .(Discharge 21751 Cumecs)	-- do --	-- do --	-- do --

14	409.200 @ Dist. of 23.410 km from Isapur Dam near village Pimpri Diwat Tq. Umarkhed. (Discharge 22531 Cumeecs)	-- do --	-- do --	-- do --
15	406.740 @ Dist. of 24.900 km from Isapur Dam near village Manula (Bk) Tq. Hadgaon. (Discharge 22565 Cumeecs)	-- do --	-- do --	-- do --
16	404.570 @ Dist. of 26.360 km from Isapur Dam near village Palasi Tq. Umarkhed. (Discharge 22685 Cumeecs)	-- do --	-- do --	-- do --
17	406.550 @ Dist. of 28.180 km from Isapur Dam near village Matala Tq. Hadgaon. (Discharge 22917 Cumeecs)	-- do --	-- do --	-- do --
18	407.465 @ Dist. of 30.740 km from Isapur Dam near village Bare Tq. Umarkhed. (Discharge 23279 Cumeecs)	-- do --	-- do --	-- do --
19	407.995 @ Dist. of 31.915 km from Isapur Dam near village Belkhed Tq. Umarkhed. (Discharge 23486 Cumeecs)	-- do --	-- do --	-- do --
20	406.690 @ Dist. of 36.07 km from Isapur Dam near village Pewa Tq. Hadgaon. (Discharge 23972 Cumeecs)	-- do --	-- do --	-- do --
21	405.955 @ Dist. of 37.375 km from Isapur Dam near village Karodi Tq. Hadgaon. (Discharge 23997 Cumeecs)	-- do --	-- do --	-- do --

22	406.085 @ Dist. of 39.260 km from Isapur Dam near village Kaleshwar Tq. Hadgaon.(Discharge 24801 Cumeecs)	-- do --	-- do --	-- do --
23	407.900 @ Dist. of 42.680 km from Isapur Dam near village Chincholi sangam Tq. Umarkhed. (Discharge 46294 Cumeecs)	-- do --	-- do --	-- do --
24	405.395 @ Dist. of 43.400 km from Isapur Dam near village Gojegaon Tq. Hadgaon. (Discharge 46336 Cumeecs)	-- do --	-- do --	-- do --
25	409.505 @ Dist. of 42.275 km from Isapur Dam on Gojegaon Bridge Tq. Hadgaon. (Discharge 46517 Cumeecs)	-- do --	-- do --	-- do --

### 5. Disaster Level (L<sub>4</sub> Level)

Disaster situation where the district & regional level authority require assistance from state level. The scale and intensity of disaster shall be determined by revenue authorities with assistance of technical agencies like WRD & IMD. The declaration by Collector is sufficient for L<sub>4</sub> level disaster

Sr.No.	Trigger Level	Who will communicate	To Whom	How & what
1	L4 Disaster level.	State Level Officers, Disaster Management Cell	Central Govt, Army, Navy, Air Force	Hot Line outflow discharge of dams/Rivers

## Appendix-III

### Communication Protocol for Non Government Projects :

Authorities owing dams like, Zilla Parishad , U.D.D, CIDCO, Pvt Townships, Tata Hydro, Municipal Corporation shall appoint Controlling Officer in two categories Viz., Dam Site-in-Charge Engineer and Project Manager (PM).

Communication between in charge Engineer and Dy. Engineer of Irrigation Division shall be established on daily basis in normal situations.

In case of warning situation project manager must be in communication with Executive Engineer of concerned Irrigation Division.

### Communication Protocol for Non Government Dams

1. In Preparedness situation Deputy Engineer will communicates as follows

Sr.No.	Trigger Level	Who will communicate	To Whom	How & what
1	Lo Preparedness Level	Corporation Project Manager or C.O. of Municipal Council	Assistant Collector, Tahasildar, BDO/ Local Police Station In-charge / Gramsevak / Chairman of village formats/ Head master of village school	Phone /E-mail

2. In normal situations Project Manager or C.O. of Municipal Corporation will communication as follows :

Sr. No.	Trigger Level	Who will communicate	To Whom	How & what
	L1 Normal level.	Corporation Project Manager or C.O. of Municipal Council/ Executive Engineer of WRD	Superintending Engineer / Disaster Management cell of District / District Collector / Chief Executive Officer of Zillha Parishad / Superintendent of police of District / DEN Railways/ District flood control cell	E-mail/ SMS/Phone Water levels & discharge from Dams/Rivers



### 3. Alert Level (L2 Level)

In Alert situations flood shall be ascertained separately for each project and integrated also before reaching to this situation, following communication method shall be adapted by telephone, wireless, email & fax.

Sr.No.	Trigger Level	Who will communicate	To Whom	How & what
1	L2 Alert level.	Corporation Project Manager or C.O. of Municipal Council/ Ex .Engineer (Divisional Flood Control Officer)	Superintending Engineer / District Collector / Municipal Commissioner	E-mail /Phone/SMS/Wireless every 3 hours Rainfall & outflows of dams/Rivers
		Superintending Engineer (District /Sub Basin Flood Control Officer)	Chief Engineer and basin flood control officer / Press Note	E-mail /Phone/SMS/Wireless every 3 hours outflows of dams/Rivers

### 4. Danger Level (L3 Level)

In case of flood discharges which are about to reach danger levels or crossing danger levels in rivers and likely to create inundation of habitations. However the disaster situation is manageable at district level and immediate relief measures are required, then this alarming situation shall be reported to highest authorities by the Chief Engineer, in-charge of Basin flood control.

Sr.No.	Trigger Level	Who will communicate	To Whom	How & what
1	L3 Danger level.	Ex .Engineer (Divisional Flood Control Officer)	Superintending Engineer / District Collector / Municipal Commissioner	E-mail / SMS /Phone @ every 3 hours or @ closer intervals Rainfall & outflow discharge of dams/Rivers
		Superintending Engineer (District /Sub Basin Flood Control Officer)	Chief Engineer and basin control officer / Press Note	E-mail / SMS /Phone @ every 3 hours.
		Chief Engineer Flood Control Officer	Commissioner Pune / Principal Secy.W.R.D./ Hon.Minister W.R.D.	E-mail / SMS /Phone @ every 3 hours.
		Principal Secy. (CAD)	Hon.Chief Minister & Chief Secretary, GOM	E-mail / SMS /Phone @ every 3 hours.

## 5. Disaster Level (L<sub>4</sub> Level)

Disaster situation where the district & regional level authority require assistance from state level. The scale and intensity of disaster shall be determined by revenue authorities with assistance of technical agencies like WRD & IMD. The declaration by Collector is sufficient for L<sub>4</sub> level disaster

Sr.No.	Trigger Level	Who will communicate	To Whom	How & what
1	L4 Disaster level.	State Level Officers, Disaster Management Cell	Central Govt, Army, Navy, Air Force	Hot Line outflow discharge of dams/Rivers

## Appendix-IV

### Communication Protocol for Interstate Project.

#### 1. Alert Level (L2 Level)

In Alert situations flood shall be ascertained separately for each project and integrated also before reaching to this situation, following communication method shall be adapted by telephone, wireless, email & fax.

Sr.No.	Trigger Level	Who will communicate	To Whom	How & what
1	L2 Alert level.	Ex .Engineer (Divisional Flood Control Officer)	Superintending Engineer / District Collector / Municipal Commissioner	E-mail /Phone/SMS/Wireless every 3 hours Rainfall & outflows of dams/Rivers
		Superintending Engineer (District /Sub Basin Flood Control Officer)	Chief Engineer and basin control officer / Press Note	E-mail /Phone/SMS/Wireless every 3 hours outflows of dams/Rivers

#### 2. Danger Level (L3 Level)

In case of flood discharges which are about to reach danger levels or crossing danger levels in rivers and likely to create inundation of habitations. However the disaster situation is manageable at district level and immediate relief measures are required, then this alarming situation shall be reported to highest authorities by the Chief Engineer, in-charge of Basin flood control.

Sr. No.	Trigger Level	Who will communicate	To Whom	How & what
1	L3 Danger level.	Ex .Engineer (Divisional Flood Control Officer)	Superintending Engineer / District Collector / Municipal Commissioner	E-mail / SMS /Phone @ every 3 hours or @ closer intervals Rainfall & outflow discharge of dams/Rivers
		Superintending Engineer (District /Sub Basin Flood Control Officer)	Chief Engineer and basin control officer / Press Note	E-mail / SMS /Phone @ every 3 hours.
		Chief Engineer Flood Control Officer	Commissioner Pune / Principal Secy.W.R.D./ Hon.Minister W.R.D.	E-mail / SMS /Phone @ every 3 hours.
		Principal Secy. (CAD)	Hon.Chief Minister & Chief Secretary, GOM	E-mail / SMS /Phone @ every 3 hours.

### 3. Disaster Level (L<sub>4</sub> Level)

Disaster situation where the district & regional level authority require assistance from state level. The scale and intensity of disaster shall be determined by revenue authorities with assistance of technical agencies like WRD & IMD. The declaration by Collector is sufficient for L<sub>4</sub> level disaster

Sr.No.	Trigger Level	Who will communicate	To Whom	How & what
1	L4 Disaster level.	State Level Officers, Disaster Management Cell	Central Govt, Army, Navy, Air Force	Hot Line outflow discharge of dams/Rivers

## Appendix-V

### Preparedness checklist for Superintending Engineer :

(To be filled in by the Superintending Engineer and submitted to the Chief Engineer before June every year.

No.	Preparedness measures	Details /Remarks
1	The department is familiar with flood manual, Government resolutions and flood response procedures are clearly defined.	Yes, Necessary meetings are taken before Monsoon.
2	Orientation and training for flood response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff.	Most of the staff is well experienced.
3	Reviewed and updated a. Precautionary measures and procedures b. Precaution to be taken to protect equipments. c. During flood & post flood procedures to be followed.	Reviewed at the time of Pre - Monsoon 2014
4	Flood monitoring mechanisms can be activated in all flood prone areas from 1 <sup>st</sup> June.	Yes
5	All staff are well aware of precautions to be taken to protect their own lives and personal property.	Yes
6	Each technical staff has instructions and knows operating procedures for flood conditions.	Yes
7	a) Methods of monitoring and impounding the levels in the dam. b) Methods of alerting officers on other dam sites and the Central Flood Control Cell. c) Mechanism evolved for i) Forewarning settlements in the downstream. ii) Evacuation. iii) Co-ordination with other dam authorities.	As per sanctioned R.O.S. 2014
8	An officer has been appointed at Flood control cell for flood management.	Yes
9	Sources of materials required for response operations have been identified.	Yes

Report by:

Signature:

Name: Shri. B. S. Swami,

Designation: Superintending Engineer, Nanded Irrigation Circle, Nanded.

Date:

## Appendix-VI

### Preparedness Checklist for Executive Engineer:

(To be filled in by the Executive Engineer and submitted to the Chief Engineer before June every year.

No.	Preparedness measures	Yes/ No	Details/ Remarks
1	Communication established with a. Central flood control cell. b. District Co-ordination officer. c. Basin flood control officer. d. Divisional Commissioner. e. Other dam controlling officers.	Yes Yes Yes Yes Yes	U.P.P.Dn.1,NANDED Flood Cell 02462 - 260820, 9689922035 N.I.C. CIRCLE, NANDED Flood Cell 02462 - 263870, 9922479886 Regional Aurangabad Flood Cell 0240 - 2351617 Aurangabad Flood Cell 0240 - 233194, 231221.
2	An officer appointed as dam in-charge.	Yes	Sangle B.P. Sub-Divisional Engineer, 8411911980 (Additional Charge)
3	Emergency tool kits to contain following documents. 1. 2.	Yes	
4	Water level gauges on dam structures marked.	Yes	Water level gauge plates are installed @I.R.B.C,I.L.B.C.outlet and spillway.
5	Repairs/under construction activities are well secured.	Yes	
6	Round the clock inspection, monitoring and repairs being carried out of a. Dams structure b. Gates & outlets c. Instruments on dams d. Irrigation channels. e. Bridges f. Culverts g. Overflow channels.	Yes	Vide division office order No. 350 Dt. 23/05/2014 from Dt. 01/06/2014 for flood controlling 2014 shift wise duties and date wise duties 12 Sectional Engineer,/Assistant Engineer has been appointed @ Dam site.
7	Round the clock inspection, monitoring and repairs being carried out of a. Pumps b. Generators c. Motor equipment d. Stations buildings	Yes	By Departmental staff and by Mechanical Departmental staff.
8	Dam water level co-ordination/communication with other dam controllers.	Yes	
9	Inlet & outlet channels are cleared.	Yes	

Inspected by :

Signature :

Name : Shri. A.A.Meshram

Designation : Executive Engineer, Upper Penganga Project Division No. 1, Nanded.

## Appendix-VII

### Communication /Action Chart

Sr.No.	Officer	When	To whom	How
<b>1.</b>	<p>Flood Control cell @ Division Level. Dy. Executive Engineer, Upper Panganga Project Division No. 1, Nanded. 02462 - 260820</p> <p>Executive Engineer, UpperPenganga.Project. Division .No. 1, Nanded., 02462 - 260820, 9689922035</p>	<p>1) Daily Gauges about Rainfall &amp; storages at 8.00 am &amp; 17.00 pm</p>	<p>1) Central flood control unit @ regional level i.e.@ Chief Engineer, Water Resources Dept. Aurangabad 0240 - 2351617.</p> <p>.2) Flood Control cell of Collector office Nanded, 02462 - 235077, 02462 - 237101, 238500</p> <p>3) Police Department Nanded, 02462 - 251316, 02462 - 251253 02462 - 251451</p> <p>4) Collector Office Hingoli, 02456 - 221701, 02456 - 221464</p> <p>5) Collector Office Yavatmal, 07232 - 242501, 07232 - 242211.</p> <p>6) Police Department Hingoli, 02456 - 221744</p> <p>7) Police Department Yavatmal, 07232 - 256701.</p> <p>8) Municipal Corporation Hadgaon, 02468 - 222408.</p> <p>9) Municipal Corporation Kinwat, 02469 - 222012, 9763362006</p> <p>10) Municipal Corporation Umarched.</p>	<p>Phone / SMS/ Wireless</p>

			<p>07231 - 231739, 231740</p> <p>11) Tahsildar Kalamnuri, 02455 - 220021.</p> <p>12) Tahsildar, Pusad 07233 - 246032, 07233 - 246074.</p> <p>13) Tahsildar, Umarched, 07231 - 237217, 07231 - 237867.</p> <p>14) Tahsildar, Hadgaon, 02468 - 222328</p> <p>15) Tahsildar, Mahur, 02460 - 268521</p> <p>16) Tahsildar, Himayatnagar, 02468 - 244428.</p> <p>17) Tahsildar, Kinwat, 02469 - 222008, 02469 - 222228</p>	
		2) The discharge in river at alert & danger level.	-- do --	-- do --
		3) Discharge releases from spillway of all dams	-- do --	-- do --





**Appendix-VII**  
**Communication /Action Chart**

<b>Sr.No.</b>	<b>Officer</b>	<b>When</b>	<b>To Whom</b>	<b>How</b>
2.	Sectional Engineer Upper Penganga Irrigation Sub-Division No.1, Penganganagar.	1) Daily Gauges of 8.00 Hrs. 7 Hrs.	1) Sub-Divisional Engineer Upper Penganga Irrigation Sub Division No. 1, Penganganagar. 2) Executive Engineer, Upper Penganga Project Division No. 1 Nanded., 02462 - 260820, 9689922035. 3) Flood Control cell Dy. Executive Engineer, Upper Penganga Project Division No. 1, Nanded. 02462 - 260820	Phone / SMS/ Wireless message

		<p>2) 4 Hrs before starting of releases through spillway.</p>	<p>1) Sub-Divisional Engineer Upper Penganga Irrigation Sub Division No. 1, Penganganagar. 8411911980  2) Executive Engineer, Upper Penganga Project Division No. 1 Nanded.,  02462 - 260820, 9689922035.  3) Flood Control cell Dy. Executive Engineer, Upper Penganga Project Division No. 1, Nanded.  02462 - 260820  4) Sarpanch of D/S. Grampanchayat in Tq. Kalamnuri, Pusad, Hadgaon, Umardhed.</p>	<p>SMS / Phone/  Wireless message</p>
		<p>3) 24 Hr.Rain fall recorded more than 100 mm @ any rain gauge in catchment area</p>	<p>1) Sub-Divisional Engineer Upper Penganga Irrigation Sub Division No. 1, Penganganagar. 8411911980  2) Executive Engineer, Upper Penganga Project Division No. 1 Nanded.,  02462 - 260820, 9689922035.</p>	<p>SMS / Phone  Wireless message</p>

		<p>4) Every major change in discharge releases through spillway.</p>	<p>1) Sub-Divisional Engineer Upper Penganga Irrigation Sub Division No. 1, Penganganagar. 8411911980</p> <p>2) Executive Engineer, Upper Penganga Project Division No. 1 Nanded., 02462 - 260820, 9689922035.</p> <p>3) Flood Control cell Dy. Executive Engineer, Upper Penganga Project Division No. 1, Nanded. 02462 - 260820</p> <p>4) Sarpanch / Gramsevak of immediate D/s Grampanchayat in Tq. Kalamnuri, Pusad, Hadgaon, Umardhed.</p>	<p>SMS / Phone Wireless message</p>
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		<p>5) 50 % of design Discharge From spillway of Dam.</p>	<p>1) Sub-Divisional Engineer Upper Penganga Irrigation Sub Division No. 1, Penganganagar. 8411911980</p> <p>2) Executive Engineer, Upper Penganga Project Division No. 1 Nanded., 02462 - 260820, 9689922035.</p> <p>3) Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886.</p> <p>4) Flood Control cell Dy. Executive Engineer, Upper Penganga Project Division No. 1, Nanded. 02462 - 260820</p> <p>5) Flood Control cell @ Circle Level Nanded Irrigation Circle, Nanded. 02462 - 263870</p>	<p>SMS / Phone Wireless.</p>
		<p>6) 1 in 25 years discharge (blue line)</p>	<p>-- do --</p>	<p>-- do --</p>

## Appendix-VII

### Communication /Action Chart

Sr. No.	Officer	When	To Whom	How
3.	Sub-Divisional Engineer Upper .Penganga. Irrigation Sub Division No. 1, Penganganagar. 8411911980	1) 4 Hours before starting of releases from Spillway.	<p>1) Sub-Divisional Engineer Upper Penganga Irrigation Sub Division No. 3, Akhada Balapur. 8411911980</p> <p>2) Sub-Divisional Engineer Upper Penganga Irrigation Sub Division No. 2, Umarched. 9423626436.</p> <p>3) Sub-Divisional Engineer Upper Penganga Irrigation Sub Division No. 5, Ardhapur. 9422872905.</p> <p>4) Flood Control cell Dy. Executive Engineer, Upper Penganga Project Division No. 1, Nanded. 02462 - 260820</p> <p>5) Executive Engineer, Upper Penganga Project Division No. 1, Nanded. 02462 - 260820, 9689922035.</p> <p>6) Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886.</p>	SMS / Phone/ Wireless.

		<p>2) 24 hour rainfall more than 100 mm @ any rain gauge station.</p>	<p>1) Executive Engineer, Upper Penganga Project Division No. 1, Nanded. 02462 - 260820, 9689922035. 2) Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886.</p>	<p>SMS / Phone/ Wireless.</p>
		<p>3) Every Change in releases of spillway discharges.</p>	<p>1) Flood Control cell Dy. Executive Engineer, Upper Penganga Project Division No. 1, Nanded. 02462 - 260820 2) Executive Engineer, Upper Penganga Project Division No. 1, Nanded. 02462 - 260820, 9689922035. 3) Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886.</p>	<p>SMS / Phone/ Wireless.</p>

		4) 50 % more discharge of design discharge releases through spillway	<p>1) Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886</p> <p>2) Tahsildar Kalamnuri, 02455 - 220021</p> <p>3) Tahsildar, Pusad 07233 - 246032, 07233 - 246074.</p> <p>4) Tahsildar, Umarkhed, 07231 - 237217, 07231 - 237867</p> <p>5) Tahsildar, Hadgaon, 02468 - 222328.</p> <p>6) Tahsildar, Mahur, 02460 - 268521.</p> <p>7) Tahsildar, Himayatnagar, 02468 - 244428.</p> <p>8) Tahsildar, Kinwat, 02469 - 222008, 02469 - 222228</p>	SMS / Phone/ Wireless
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		<p>5) Observation of / Releases of discharge in rivercreating alert level.</p>	<p>1) Flood Control cell Dy. Executive Engineer, Upper Penganga Project Division No. 1, Nanded. 02462 - 260820</p> <p>2) Executive Engineer, Upper Penganga Project Division No. 1, Nanded. , 02462 - 260820, 9689922035.</p> <p>3) Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886.</p> <p>4) Tahsildar Kalamnuri, 02455 - 220021</p> <p>5) Tahsildar, Pusad 07233 - 246032, 07233 - 246074,</p> <p>6) Tahsildar, Umarkhed, 07231 - 237217, 07231 - 237867</p> <p>7) Tahsildar, Hadgaon, 02468 - 222328</p> <p>8) Tahsildar, Mahur, 02460 - 268521</p> <p>9) Tahsildar, Himayatnagar, 02468 - 244428</p> <p>10) Tahsildar, Kinwat, 02469 - 222008, 02469 - 222228</p>	<p>SMS / Phone/ Wireless</p>
		<p>6) Creating danger level.</p>	<p>-- do --</p>	<p>-- do --</p>

**Appendix-VII**  
**Communication /Action Chart**

<b>Sr. No.</b>	<b>Officer</b>	<b>When</b>	<b>To Whom</b>	<b>How</b>
4.	Executive Engineer, Upper Penganga.Project. Division No. 1, Nanded., 02462 - 260820, 9689922035.	1) Discharge in river corresponding to alert level and danger level.	1) Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886.  2) Chief Engineer, W.R.D. Regional Office, Aurangabad. 0240 - 2351617, 0240 - 2331249,  3) Concerned Executive Engineer on down stream of river portion. 4) Executive Engineer, Upper Penganga Project Division No.5, Hadgaon.  5) Executive Engineer, Lower Penganga Circle, Yavatmal.	SMS / Phone

		<p>2) In case of major dams 24 Hours before releases through spillway.</p>	<p>1) Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886</p> <p>2) Collector, Nanded 02462 -235077, 238500, 237101.</p> <p>3) Collector, Yavatmal 07232 - 242501, 242211.</p> <p>4) Collector, Hingoli 02456 - 221701, 221464.</p> <p>5)Tahsildar, Kalamnuri 02455 - 220021,</p> <p>6) Tahsildar, Pusad 07233 - 246032 , 246074.</p> <p>7) Tahsildar, Umarkhed 07231 - 237217 , 237867.</p> <p>8) Tahsildar, Hadgaon 02468 - 22232</p> <p>9) Tahsildar, Mahur 02460 - 268521 .</p> <p>10) Tahsildar, Himayatnagar 02468 - 244428.</p> <p>11) Tahsildar, Kinwat. 02469 -222008 , 222228.</p>	<p>By letter SMS / Phone</p>
		<p>3) Storage in dam at particular time beyond storage stipulated in R.O.S.</p>	<p>Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886</p>	<p>SMS / Phone / Letter</p>

		<p>4) Likely place &amp; bridges which gets affected at discharge. (Considering past experience)</p>	<p>1) Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886  2) Executive Engineer, (PWD) Nanded. 02462 - 254502.  3) Concerned Municipal Corporation, Hadgaon. 02468 - 222408  4) Muncipal Corporation Kinwat. 02469 - 222012  5) Muncipal Corporation Umarchhed. 07231 - 237139, 07231 - 237140.  6) Concern MLA and M.D. Hon. Shri Ashokraoji Chavan, M.P. 02462 - 237181, 2462 - 232808.</p> <p>Hon. Shri. D. P. Sawant, MLA, Nanded - 02462 – 234085 .</p> <p>Hon. Shri. Rajiv Satav, M. P. Hingoli,</p> <p>Hon. Shri. Najardhane, MLA Umarchhed.</p> <p>Hon. Shri. Nagesh Patil, Ashtikar, MLA Hadgaon 02468 - 258201</p> <p>Hon. Shri. Pradip Naik, MLA Kinwat. 02469 - 260555</p>	<p>SMS / Phone Radio &amp; Television</p>
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## Appendix-VII

### Communication /Action Chart

<b>Sr. No.</b>	<b>Officer</b>	<b>When</b>	<b>To Whom</b>	<b>How</b>
5.	Superintending Engineer, Nanded Irrigation Circle, Nanded. 02462 - 261165, 02462 - 262460 9922479886	1) Discharge in river at danger level.	1) Chief Engineer, WRD Aurangabad. 0240 - 2351617, 0240 - 2331249  2) Collector, Nanded 02462 - 235077, 02462 - 237101 02462 - 238500  3) Collector Hingoli 02456 - 221701, 02456 - 221464  4) Collector Yavatmal 07232 - 242501, 07232 - 242211  5) Hon. Divisional Commissioner Aurangabad. 0240 - 2331294, 0240 - 2331221  6) Superintending of Police Nanded. 02462 - 251316, 02462 - 251253, 02462 - 251451,  7) Superintending of Police Hingoli. 02456 -221744  8) Superintending of Police Yavatmal. 07232 - 256701.	SMS / Phone

		<p>2) 75 % of design discharge or more discharge to be released from spillway.</p>	<p>1) Chief Engineer, WRD Aurangabad. 0240 - 2351617, 0240 - 2331249</p> <p>2) Collector, Nanded 02462 - 235077, 02462 - 237101 02462 - 238500.</p> <p>3) Collector Hingoli 02456 - 221701, 02456 - 221464</p> <p>4) Collector Yavatmal 07232 - 242501, 07232 - 242211</p> <p>5) Hon. Divisional Commissioner Aurangabad. 0240 - 2331294, 0240 - 2331221</p> <p>6) Concern S. E. on D/s Portion.</p>	<p>SMS / Phone</p>
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		<p>3) Likely places or bridges which gets affected due to discharge below alert &amp; danger level (Considering past Experience)</p>	<p>1) Chief Engineer, WRD Aurangabad. 0240 -2351617, 2331249. 2) Collector, Nanded 02462 - 235077, 237101, 238500, 3) Collector Hingoli 02456 - 221701, 221464 4) Collector Yavatmal 07232 - 242501, 242211. 5) Hon. Divisional Commissioner Aurangabad. 0240 - 2331294, 2331221 6) Superintending of Police Nanded. 02462 - 251316, 251253, 251451, 7) Superintending of Police Hingoli. 02456 -221744 8) Superintending of Police Yavatmal. 07232 - 256701. 9) Concern MLA and M.D. Hon. Shri Ashokraoji Chavan, M.P. 02462 - 237181, 232808. 10) Hon. Shri. D. P. Sawant, MLA, Nanded - 02462 - 234085. 11) Hon. Shri. Rajiv Satav, M. P. Hingoli, 12) Hon. Shri. Najardhane, MLA Umarkhed. 13) Hon. Shri. Nagesh Patil, Ashtikar, MLA Hadgaon 02468 - 258201 14) Hon. Shri. Pradip Naik, MLA Kinwat. 02469 - 260555.</p>	<p>SMS / Phone Radio &amp; Television</p>
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		4) Any structural damages for dam and canal.	1) Chief Engineer, WRD Aurangabad. 0240 - 2351617, 0240 - 2331249  2) Hon. Principal Secretary CADA and WRD Mumbai 022 - 22023108, 022 - 22023213  3) Hon. Principal Secretary, WRD Mumbai, 022 - 22023109, 022 - 22831817.	SMS / Phone
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		<p>5) Any dam Failure.</p>	<p>1) Chief Engineer, WRD Aurangabad. 0240 - 2351617, 0240 - 2331249</p> <p>2) Hon. Principal Secretary CADA and WRD Mumbai 022 - 22023108, 022 - 22023213</p> <p>3) Hon. Principal Secretary, WRD Mumbai, 022 - 22023109, 022 - 22831817.</p> <p>4) Hon. Minister, WRD Mumbai.</p> <p>5) Collector, Nanded 02462 - 235077, 02462 - 237101 02462 - 238500.</p> <p>6) Collector Hingoli 02456 - 221701, 02456 - 221464</p> <p>7) Collector Yavatmal 07232 - 242501, 07232 - 242211</p> <p>8) Hon. Divisional Commissioner Aurangabad. 0240 - 2331294, 0240 - 2331221</p>	<p>SMS / Phone</p>
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## Appendix-VII

### Communication /Action Chart

Sr. No.	Officer	When	To Whom	How
6.	Chief Engineer, WRD Aurangabad. 0240 - 2351617, 0240 - 2331249	1) Discharge in river at danger level.	1) Hon. Principal Secretary CADA and WRD Mumbai 022 - 22023108, 022 - 22023213 2) Hon. Principal Secretary, WRD Mumbai, 022 - 22023109, 022 - 22831817. 3) Hon. Divisional Commissioner Aurangabad. 0240 - 2331294, 0240 - 2331221	SMS / Phone Radio & Television
		2) Any structural damages for dam and canal.	1) Hon. Principal Secretary CADA and WRD Mumbai 022 - 22023108, 022 - 22023213 2) Hon. Principal Secretary, WRD Mumbai, 022 - 22023109, 022 - 22831817 3) Hon. Minister, WRD Mumbai	SMS / Phone

		3) Failure of any Dam.	1) Hon. Principal Secretary CADA and WRD Mumbai 022 - 22023108, 022 - 22023213 2) Hon. Principal Secretary, WRD Mumbai, 022 - 22023109, 022 - 22831817 3) Hon. Divisional Commissioner Aurangabad. 0240 - 2331294, 0240 - 2331221 4) Hon. Minister, WRD Mumbai	SMS / Phone
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## Appendix-VIII

### List of Phone Numbers of Officers (Penganga Basin)

अ. क्र.	जिल्हा	पूरनियंत्रक अधिकारी	कार्यालयीन दूरध्वनी	निवासी दूरध्वनी	मोबाईल	ई-मेल	शेरा
१	२	३	४	५	६	७	८
१	औरंगाबाद	श्री. आर.के. निटूरकर मुख्य अभियंता, जलसंपदा विभाग औरंगाबाद.	0240 - 2331249			ce wrd_ abad@ wrd. maharashtra. g ov. in	
२	नांदेड	श्री. बी. एस. स्वामी, अधिक्षक अभियंता, नांदेड पाटबंधारे मंडळ, नांदेड	02462 - 262460 261165 Fax		9822479886	senic_ nanded@ wrd. maharashtra. gov. in	
३	नांदेड	श्री. ए. ए. मेश्राम कार्यकारी अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड.	02462 - 260820		9689922035	uppd1_ nanded@ dataone. in	
४	नांदेड	श्री. एस. एस. हाशमी, उप-अधिक्षक अभियंता, नांदेड पाटबंधारे मंडळ नांदेड	02462 - 262460 261165 Fax		9822960166	senic_ nanded@ wrd. maharashtra. gov. in	
५	नांदेड	श्री. एन. एन. ओझा. उपकार्यकारी अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड	02462 - 260820			uppd1_ nanded@ dataone. in	
६	नांदेड	श्री. बी. पी. सांगळे, उपविभागीय अभियंता, उर्ध्व पैनगंगा प्रकल्प उपविभाग क्र. १, पैनगंगानगर (अतिरिक्त कार्यभार)			8411911980		

७	नांदेड	श्री. पी. एल. भालेराव उपविभागीय अधिकारी, उर्ध्व पैनगंगा पाटबंधारे उपविभाग क्र. २, उमरखेड			9423626436	
८	नांदेड	श्री. बी. पी. सांगळे, उपविभागीय अभियंता, उर्ध्व पैनगंगा पाटबंधारे उपविभाग क्र. ३, आखाडा बाळापूर			8411911980	
९	नांदेड	श्री. डी. डी. भालेराव उपविभागीय अधिकारी, उर्ध्व पैनगंगा पाटबंधारे उपविभाग क्र. ४, हदगाव (अतिरिक्त कार्यभार)	02462 - 260820 Divn. Office		9422188180	
१०	नांदेड	श्री. व्ही. एन. दारमवार, उपविभागीय अभियंता, उर्ध्व पैनगंगा पाटबंधारे उपविभाग क्र. ५, अर्धापूर			9422872905	
११	नांदेड	श्री. एस. के. सालेवार उपविभागीय अभियंता, उर्ध्व पैनगंगा पाटबंधारे उपविभाग क्र. ६ मुदखेड			9404643951	
१२	नांदेड	श्री. पी.एम. गोतमारे उपविभागीय अधिकारी, उर्ध्व पैनगंगा पाटबंधारे उपविभाग क्र. ७ मुदखेड			9422865346	
१३	नांदेड	श्री. पी. एच.पठाण सहा. शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड	02462 - 260820 Divn. Office		9423626462	

१४	नांदेड	श्री. डी. बी. कदम, शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड	02462 - 260820 Divn. Office		7588161223		
१५	नांदेड	श्री. ए. एच. गोकुळे सहा. अभि. श्रेणी-२, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड	02462 - 260820 Divn. Office		9860202401		
१६	नांदेड	श्री. आर.डी. पत्की, शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9421488622		
१७	नांदेड	श्री. व्ही.व्ही.पाटील सहा. अभि. श्रेणी-२, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			7709795683		
१८	नांदेड	श्री. एन.एच.धुळगडे सहा. अभि. श्रेणी-२, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			8888888245		
१९	नांदेड	श्रीमती.एम.डी. शिरगिरे सहा.अभि.श्रेणी-२, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9423023527		
२०	नांदेड	श्री.व्ही.आर.पवार सहा. अभि. श्रेणी-२, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			8888019208		
२१	नांदेड	श्री. पी. पी . बाबरे शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9975577843		
२२	नांदेड	श्री. एम. ए. देशमुख, कनिष्ठ अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9730554532		
२३	नांदेड	श्री. आर. बी. जनवाडे, शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9823377754		
२४	नांदेड	श्री. व्ही. एस. पुयड, सहा. अभि. श्रेणी-२, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9422563440		

२५	नांदेड	श्री. वाय.एस.शेन्डे , सहा. अभि. श्रेणी-२, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			8007059742		
२६	नांदेड	श्री. व्ही.सी.साकळे शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9421766642		
२७	नांदेड	श्री. पी. ए. सातेलीकर, सहा. अभि. श्रेणी-२, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9890405139		
२८	नांदेड	श्री. जे. जी. कांबळे, शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9890296174		
२९	नांदेड	श्री. पी. एल. भालेराव, शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9423626436		
३०	नांदेड	श्री. एम. बी. गुमटे, शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9326117969		
३१	नांदेड	श्री. आर.एन.देशमुख , शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9421839508		
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३३	नांदेड	श्री. पी. सी. वाघमारे, शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			7387224414		
३४	नांदेड	श्री. सय्यद मदार, कनिष्ठ अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9763739446		
३५	नांदेड	श्री. ए.एस.जाधव , शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9421092826		
३६	नांदेड	श्री. जे.यु. अमिलकन्ठवार, शाखा अभियंता, उर्ध्व पैनगंगा प्रकल्प विभाग क्र. १, नांदेड			9421391699		

प्रकल्प स्थळावरील पूर नियंत्रण कक्ष - जिल्हाधिकारी कार्यालय, नांदेड  
जिल्हाधिकारी कार्यालय, हिंगोली  
जिल्हाधिकारी कार्यालय, यवतमाळ

अधीक्षक अभियंता कार्यालय, नांदेड पाटबंधारे मंडळ, नांदेड  
कार्यकारी अभियंता कार्यालय, उर्ध्व पेनगंगा प्रकल्प,  
विभाग क्र.1, नांदेड

ई-मेल-uppd\_9nanded@ dataone.in

अ.क्र.	प्रकल्पाचे नांव	अधिकाऱ्याचे नांव व पदनाम	धरणस्थळावरील दूरध्वनी/ मोबाईल	शेरा
1	उर्ध्व पेनगंगा प्रकल्प	1) श्री ए.ए.मेश्राम, कार्यकारी अभियंता, उर्ध्व पेनगंगा प्रकल्प विभाग क्र.1, नांदेड	9689922035	
2		2) श्री बी. पी. सांगळे, उप विभागीय अभियंता, उर्ध्व पेनगंगा पाटबंधारे उप विभाग क्र.1, पेनगंगानगर	8411911980	





## Appendix- IX

### Administrative Preparation:

Time Table for Co-ordination meetings from project level to the state level as below:-

April 1 st week	Project level meeting.
April 2 <sup>nd</sup> week	District level meeting.
April 3rd week	Basin level & interstate level.
April 4 th week	State level & interstate level.

## DEFINITIONS

### **1. Reservoir Operation Schedule:**

Reservoir Operation Schedule is the schedule prepared to serve the purpose of building up the conservation storage efficiently without involving any risk of man-made flood the area on the downstream.

### **2. Gate Operation Schedule:**

Gate Operation Schedule is the sequence and stages of operation of various gates corresponding to various lake levels and the flood situations.

### **3. Guide Curves:**

Guide curves will show the limits to which the reservoir levels should be normally raised at the end of specified periods for achieving the normal planned storage of the reservoir while availing of the flood absorption capacity to the greater possible extent during the specified periods.

### **4. Trigger Mechanism:**

Trigger mechanism is the plan to indicate the level of disaster, the type of response, communication sequence and actions of officers.

## Abbreviations

SOP	Slandered Operating Procedure
ROS	Reservoir Operation Schedule.
EAP	Emergency Action Plan
DFCC	District Flood Co-ordination Committee
SDO	Sub Divisional Officer (Revenue)
BDO	Block Development Officer, Panchayat Samiti
ERD	Water Resources Department
IMD	India Meteorological Department