



BHAKRA BEAS MANAGEMENT BOARD

EMERGENCY ACTION PLAN/ DISASTER MANAGEMENT PLAN

FOR

PONG DAM (TALWARA)

Prepared By

December, 2009

Design Directorate
Bhakra Beas Management
Board Nangal Township
Distt. Ropar (Pb.)

1st -(Update)
August, 2014
2nd -(Update)
July, 2017

3rd (Update)
July, 2018
4th (Update)
May, 2019
5th (Update)
June, 2020
6th (Update)
May, 2021
7th (Update)

May, 2022
8th (Update)

May, 2023
9th (Update)

May, 2024
10th (Update)

May, 2025
11th (Update)

FOREWARD

Emergency situation may arise due to flood, water leakage, accidents, terrorist attack and other natural disasters/ natural calamity such as earthquake etc. at any time. These disasters may cause serious loss to life and property of people.

Under such situation, the risk should be foreseen to the extent possible well in advance and action is needed to be taken as per well documented procedure as per situation. This will ensure the preparedness in respect of all related aspects to avoid disasters and minimize the losses. It will also help to ensure immediate corrective actions to plug the situation by arranging all possible means required to prevent any emergency situation.

Better management, planning, coordination, rehearsals, collective and sincere efforts by all at all time will help to achieve the desired objectives. This Emergency Action Plan for Beas Project Unit-II (Pong Dam) has been prepared based on the guidelines of Central Water Commission, Dam Safety Act-2021 & data/ information provided by the field officers.

This EAP will prove as an effective tool to handle the unforeseen situation to some extent. All concerned of Beas Project unit-II to go through this EAP meticulously in letter & spirit and also to educate their fellow colleagues accordingly. Deep involvement and cooperation of all concerned and their associate is expected in effective implementation of this Emergency Action Plan.

Er. Rakesh Kumar Gupta
Chief Engineer,
Beas Dam, BBMB,
Talwara Township

Superintending Engineer,
B&B Design Dte; BBMB,
Nangal Township.

TABLE OF CONTENTS

Item No.	Title	Page No.
1.0	Introduction	6
1.1	Geology	7
1.2	Emergency Action Plan	7-9
1.3	Notification Flow Chart	9-10
2.0	Responsibilities	10-12
2.1	Responsibility for evacuation, rescue & relief	12-14
2.1.1	Team at dam site for rescue & evacuation operation	14-15
2.1.2	Team at Sansarpur Terrace	15-16
2.1.3	Team at Talwara Township	15-17
2.1.4	Team for maintenance of electric supply covering the area from Dam and Township area	17-18
2.1.5	Security team for Pong Dam and Township area.	18
2.1.6	Communication team for establishing communication network during emergency.	19
2.1.7	Medical Assistance Team	19-20
2.2	Control Room	20
2.3	EAP Coordinator's Responsibilities	20-21
2.4	Approval of the Plan	21
3.0	Emergency Procedures	21
3.1	Emergency identification, evaluation & classification	21-24
3.2	Notification Procedures	24-25
3.2.1	Event Report	25-26
4.0	Preventive Actions	26
4.1	Surveillance	26-27
4.2	Access to the site	27
4.3	Emergency supplies and resources	27
4.3.1	Material availability	27
4.3.2	Machinery/ Equipment availability	27-28
4.3.3	Contractors	28
4.3.4	Labour	28
4.3.5	Engineers Experts	28-29
4.4	Co-ordinating information on flows	29-30
4.5	Providing alternative source of power	30
5.0	Execution of work at site	30-31
6.0	Inundation Maps	31
7.0	Description of location of Pong Dam	32
8.0	Trainings	32
9.0	Duties and responsibilities to be discharged by different officers	33

9.1	Duties & responsibilities of C.E. Pong Dam, Talwara	33-34
9.2	Duties& responsibilities of Dy.C.E./HQ Talwara	34
9.3	Duties & responsibilities of Dy. S.E. PDC, Talwara	34-36
9.4	Duties & responsibilities of S.E. Talwara Circle	36-37
9.5	Duties & responsibilities of Director Design, Nangal	38
9.6	Duties & responsibilities of Director Dam Safety, Nangal	38
9.7	Duties & responsibilities of Director Water Regulation, Nangal	38-39
9.8	Duties & responsibilities of SDE Water RegulationTalwara	39-40
9.9	Duties &responsibilities of Xen, RM Divn.Talwara	40-42
9.10	Duties &responsibilities of Xen, Pong Dam, Talwara	42-45
9.11	Duties & responsibilities of Xen, T/ship \Divn Talwara	46-47
9.12	Duties & responsibilities of Xen, Elect. Divn Talwara	48-49
9.14	Duties & responsibilities of Xen, Mech. Divn.Talwara	49-52
9.15	Duties & responsibilities of PMO, BBMB, HospitalTalwara	52-53
9.16	Duties & responsibilities of PSO, BBMB, Talwara	53-54

LIST OF ANNEXURES

Times	Title	
I	Layout Plan of Pong Dam	55
II	Salient Features of Pong Dam	56-61
III	Alert Levels for emergency conditions	62-65
IV and A(Fig.2)	Notification Flow Chart and Internal Alert Developing Situation Notification	66-69
V	Narrative information listing of persons to be notified by each individual	70-88
VI	Sample warning messages for different situations	89
VII	Organizational set up of Pong Dam	90
VIII	Contact Nos. of Agencies keeping Sniffer Dogs & Bomb Squad	91
IX&IX-A	List of Deputy Commissioners of Punjab & Himachal Pradesh & List of loading Centers on Reservoir Rim	92-93
X	Contact Numbers of Indian Army (Defence Volunteer)	94
XI	List containing Nos.of Media Persons	95
XII	Facilities to be made available in each control room.	96
XIII	List of villages u/s & d/s of Pong Dam along with Sarpanches names.	97
XIV	List of persons to be contacted during emergency & other contact Nos.	98-100
XV	Report forms for emergency situation	101-104
XVI	List of names/contact Nos.of all parties	105
XVII	List of experts/retirees	106
XVIII	Telephone Directory of Damsite	107-108
XIX	Name of employees working in Dam Area	108-117
XX	Layout plan showing alternative routes.	118
XXI	List of machinery with XEN Bhakra Mechanical Division, BBMB Nangal.	119
XXII	List of machinery/Equipment with BSL Project, Sunder Nagar	120
XXIII	List of Machinery/ Equipment's with Beas Dam BBMB Talwara	121
XXIV	List of Contractors	122
XXV	List of firms	123
XXVI	List of officers to be informed of floods	124-125
XXVII	List of persons deployed at Discharge sites	126
XXVIII	List of alternative contacts of persons to be notified	127
XXIX	Spillway Operation	128-142
XXX	List of NGO's	143
XXXI	List of NDRF & Civil Defence	144

EMERGENCY ACTION PLAN

BEAS DAM AT PONG BEAS PROJECT UNIT-II

1.0 INTRODUCTION

Beas Dam at Pong (Beas Project Unit-II) is the major storage project on river Beas which is one of the principal tributaries of the Indus Basin. It originates in the Upper Himalayas near Rohtang Pass and flows in the east west direction in Himachal Pradesh till it emerges in the plains near village Talwara in Hoshiarpur District of Punjab. The total length of its course up to its confluence with Sutlej River is about 400 Kms. and the length up to Beas Dam at Pong is 230 Kms. An earth-core gravel shell dam, rising to elevation 435.86m (1430 ft), was considered most expedient in view of the nature and structure of the foundation, its location in the active seismic zone and availability of construction materials in the vicinity. The top of the dam 132.6m (435 ft) above the deepest foundation level and 100.6m (330ft) above the normal river bed. It is 1950m (6400 ft) long at crest across the gorge, 13.72m (45 ft) wide at top and nearly 610m (2000 ft) wide at the base. The dam section has an upstream slope of 3 to 1 with berm at EL. 350.520 m (1150 ft) and downstream slope of 2.5 to 1 with a berm at EL. 350.520m (1150 ft).

An overflow chute spillway with six bays of 14.478m (47.5 ft) each with radial gates each of size 14.478 x 12.344m (47.5 x 40.5ft) has been provided on the left abutment of dam. The spillway has a discharging capacity of approx. 12375cumecs (437000 cusec) at the maximum water level (MWL) of 433.121m (1421 ft). The construction of dam involved diversion of the river through five concrete lined tunnels, marked T1, T2 (Irrigation Tunnels) P1, P2 and P3 (Penstock Tunnels) each with 30ft finished dia. Two of these tunnels are used as outlets for controlled irrigation releases and the other three for housing power penstocks. Permanent intake structure along with trash rack structures etc. have been

Provided on an excavated bench at elevation 374.9m (1230ft) for all these five tunnels. Penstock tunnels have been provided with emergency gates of size 3.05m x6.4m (10ft.x21ft.) operated from the hoist structures, located on top of the dam, which are connected to the tunnels by means of vertical shafts. The irrigation outlets are normally operated from the control chamber floor at elevation 343.6m (1127.5ft) but can also be operated from the hoist house at elevation 435.86m (1430ft) in case of emergency. Each control chamber is connected to the hoist house through a vertical shaft, nearly 91.4m (300ft) deep.

The Pong power plant is a reinforced concrete structure located in the stilling basin downstream of penstock tunnels having an uprated installed capacity of 396 MW (6 units of 66 MW each). The general layout plan of Pong Dam & appurtenant works is attached as Annexure-I. The salient features of the project have been appended as Annexure-II.

1.1 GEOLOGY

The dam site lies in the upper Shivalik sand rock, clay shale / silt stone formation, which have been subject to folding. The clay shale bands are generally massive, well compacted but largely un-cemented and tend to loosen on exposure. Further, some of the clay shale bands are formed to contain sheared plastic gouge seams. The sand rock band is generally coarse grained, massive, firm to friable and is seemingly pervious. The disposition of the shear zones in the left abutment suggests the presence of a rather complex anticline geological structure. The dips recorded are of the order of 10 degree due North (that is towards the right bank) near the left bank, gradually steeping to about 15 degree towards the right bank of river.

1.2 EMERGENCY ACTION PLAN

E.A.P.is a necessity and a first major step for safety and accident prevention during construction period as well as during post construction period i.e. operation and maintenance stage of the project. It is still a difficult

Thought process to comprehend the naturally occurring events and understand them in totality. Their ill-effect or adverse effect can be attempted for their prevention. So in this direction it has been contemplated to prepare the Emergency Action Plan for the project that may be realistic to practice in handling and meeting the challenges of unforeseen eventuality. The present attempt is for the high massive earth-cum-rock fill dam in northern Indian on river Beas at Pong. The region is a seismically active one and falls in the zone V of the seismic zoning map of India. The catchment areas of dam reservoir receive medium to high rainfall. The average rainfall observed is 1800 mm (71in) yearly. The project of this gigantic nature has the potential of development of unprecedented & inevitable floods rising out of the cloud burst or unexpected rains which may trigger emergency situation as shown in the alert level tables. The likelihood that may be encountered and the situation may be developed due to high flood resulting into over topping, embankment failures, large land slides in and around the vicinity of the dam resulting into high wave striking at the full reservoir level. The other reason for over topping may be due malfunctioning of spillway gate at the time when there is flash floods in the catchment and the flood routing capacity of the reservoir falling short despite of the best efforts. Another potent factor which may cause unfathomable impact on the stability of embankment of dam may be the development of high pore pressure in the core section and endangering the very existence of the dam.

These factors are sufficient in nature to set in motion the disasters which dislocate normal day to day human life running at normal pace & also at the same time affecting the very nerve of the economic system. The occurrence of a disaster devastates environment and further creates many human hazards which increase their hardship and dislocate the normal living beyond redemption so the outside help is needed effort to mitigate the prevailing deplorable condition at that time.

To sum up the causes which may be responsible for such type of disasters may be classified as: -

- (a) **Hydrologic**: - Such as flooding due to large releases, seepage slumping, piping, embankment cracking, embankment deformation, movement of concrete section (Sliding or overturning). Settlement failure of spillway gates or supporting structures, outlet works, equipment malfunctioning etc.
- (b) **Earthquake**: - This natural cause may have impact on the structural stability of the dam resulting into embankment piping, cracking and movement of concrete section.
- (c) **Other events**: - These include equipment failure security / criminal action, structural fire and land slide, wild fires, storm of extreme intensity, cloud burst, Tsunami and sabotage etc.

The action plan would enable the project authorities to alleviate or moderate the problems likely to develop in potential, imminent situation. This document includes procedures and information to help the authorities to issue early warning, notification messages to all those responsible for discharging duties in such like situation downstream. The E.A.P. mainly dwells / covers the potential emergencies cropping up due to hydraulic reasons as classified earlier.

1.3 NOTIFICATION FLOW CHART: -

The N.F.C. happens to be the most guiding component of E.A.P. This will enable the authorities handling the following situations most skillfully.

- (a) Flood is occurring or is expected.
- (b) Potential emergency situation is developing or has developed.
- (c) Failure is imminent/ inevitable or has occurred.

In this E.A.P. four number Alert level to cope with different types of developing situation have been identified and are appended at Annex-III. The Notification Flow Chart (N.F.C.) relating to the different alert levels have

Been marked and find place at Annexure-IV. In order to supplement in the N.F.C.the necessary narrative information has been appended as Annexure-V. In order to act swiftly, an attempt has been made to develop sample warning messages providing brief specific information about the developing situation. These find place as Annexure VI. For ensuring speedy and prompt action, these flow chart shall have to be made mandatory for their depiction in the offices of all those officers concerned with E.A.P. responsibilities.

2.0 RESPONSIBILITIES: -

Bhakra Beas Management board administration looks after the control of three projects mainly.

- 1) Bhakra Nangal Project, Nangal
- 2) B.S.L. Unit-I Sundernagar
- 3) Beas Project Unit-II at Talwara

The maintenance and upkeep of the Beas dam Project at Pong is being looked after by Chief Engineer Pong Dam. The different works of the Project are being managed and administrated through three Nos Superintending Engineer as per organizational setup mentioned at Annex VII.

The maintenance & operation of the Project is of high importance and is vital to the security and structural stability of the Project. This is possible only though the performance/ their realization of duties & responsibilities to their fullest extent. In the hierarchy of sharing responsibility Executive Engineer /Divisional Engineer is in position of pivotal importance when he has to face challenge of simple to most complicated problem developing on the project. So for the purpose of handling the imminent situation i.e. the development of emergency situation of potential danger to the project, XEN Pong Dam Division will be responsible to act promptly at the site of emergent situation on the project. Executive Engineer Mechanical, XEN Electrical, XEN R.M. on the project site would provide all the resources

under their control to help XEN Pong Dam Division to tackle the situation and they would work in tandom with him Executive Engineer Pong Dam would identify the triggering event as per Alert levels and simultaneously ensure deputing of responsible persons to meet such an eventuality.

This may include incidence of a sabotage / terrorist attack. In this case Executive Engineer Pong Dam will immediately inform Project Security Officer who will act promptly as per his duties and responsibilities listed separately in this document under the head Duties and Responsibilities. Notification in this case will be made to all concerned as per N.F.C. after identification of the situation by Executive Engineer Pong Dam in consultation with S.E., Pong Dam circle. The list of agencies dealing with such type of situation is attached as Annexure-VIII.

The probable situation likely to develop might be impinging of unprecedented high flood due to incessant rains / could burst in the Beas catchment. He will immediately inform his high officers as per flow chart of external alert. He will also ensure notification to other concerned XEN's as per N.F.C. However, he may delegate his powers to SDO Pong Dam under certain special circumstances. In such an inevitable mishap/ potential imminent situation all agencies, partner state to whom water is being supplied or the districts of the states through which river Beas runs past will be informed of the developing exigency well in time as per N.F.C. The list of concerned Deputy Commissioners has been appended as Annex IX.

It is again needless to impress that the O & M of the project is strictly carried out by the efficient, the most experienced operation according to the procedures as provided in O& M document of the project. During the developing emergency situation on the project XEN, Shah Nehar barrage would be ready with his personnel to manage passage of high flood release as made through Pong spillway during routing of impugning flood by the Beas dam project authorities.

In such an eventuality of grim flood inundation which might threaten upstream as well downstream areas of Beas Dam, XEN Pong Dam Division would arrange notification to all the Departments & Civil authorities of the districts of the concerned states including the village situated on the rim of the reservoir falling in Kangra districts of H.P. The list detailing contact numbers of various villages Sarpanches and NGO's functioning u/s and d/s of the Pong dam project have been appended as Annex-XIII. The list containing contact numbers of loading centres in Pong reservoir is attached as Annex IX- A.

2.1 RESPONSIBILITY FOR EVACUATION, RESCUE & RELIEF:

In the face of most unusual situation likely to put the normal functioning of the project in jeopardy, C.E. Pong Dam being the head of the project would act /respond to the situation with firm and grit determination on the basis of the feedback information from S.E. Pong Dam and other senior officers. The situation would be tackled with maximum calm and poise without any panic amongst his team of officers deputed to meet the challenging situation. He will put all the resources at his command to bring the developing / deteriorating situation under control. The developing situation may warrant to call help through notification to the Distt. Magistrate made in N.F.C. at Annex IV. Distt. Magistrate is to act as Chairman of the Co-ordination Relief Committee during such an inevitable situation. Chief Engineer may also call help of Indian Army, Indian Navy, Indian Air Force (contact Nos. as per Annex-X) but through Chairman BBMB office. Central agencies such as IMD/CWC will have also to be informed as per NFC because they have also the responsibility to discharge by issuing messages in regard to latest developing weather conditions in the catchment through

Various media-means such audio visual and print etc. List of these agencies has been attached as per Annex-XI.

Other attendant factors to be taken care of are: -

1. Releases from Pandoh Dam to be got stopped if possible and continuous discharge from Dehar power house in to river Sutlej be ensured during such situation.
2. The Releases from Ravi into Beas at Madhopur should also be got controlled to minimize the severity of the passing high flood d/s Beas Dam /Harikehead works as number of rivulets /may be running full & discharging maximum flood waters into Beas.

The developing situation such as high floods would be met through taking various steps through the deployment of different officers by forming their teams and entrusting various work assignments in order to cope with the situation. The XEN Pong Dam Division in consultation with SE Pong Dam (PDC) would identify & make declaration of emergency of external alert level (Red). Immediately a siren would be sounded in the presence of SE (HQ), SE (PDC) & CE Pong Dam. The mode of sounding siren will.

(a) In case of emergency, the duration of number of sound blasts will be 2 minutes BLOW 30 second BREAK for 4 time.

(b) For all clear signals it will be continuous Siren for 5 minutes which will be sounded upon the direction Chief Engineer, Pong Dam after the emergency is over.

It is also added that the siren installed at Pong Dam and in Township area would sound simultaneously at the time of declaration of the emergency. It is also imperative that the staff operating the siren as well conversant with the emergency sounding mode. The operating of alarm has to be checked periodically. Its maintenance will be carried out annually when the emergency action plan is reviewed.

In all there would be seven Nos. teams for dealing with the situation right from Dam top to down to Talwara T/Ship. XEN Pong Dam would

Monitor the situation with a precise period of time & continuously inform SE Pong Dam circle about the same.

2.1.1 TEAM AT DAM SITE FOR RESCUE & EVACUATION OPERATION

XEN Pong Dam	XEN Mechanical	XEN R.M.
SDO Pong Dam Sub Division	SDO Gates & Gearing	SDO R.M.
SDO S.S.T. Sub Divn	SDO Field Mechanical	SDO Silt Survey
SDO Instrumentation	SDO Land disputes	ARO Laboratory at Pong Dam

In case of any unusual situation getting out of control where flooding becomes inevitable (as per case IV of notification flow chart), this team would arrange to tide over the situation with their all-out efforts and ensure timely evacuation, rescue & relief of persons entrapped inside the dam or in near vicinity. The team members would: -

- (a) Transport the casualties if any on priority basis to predecided first aid centre after rescue (Primary First-Aid Centre is Dispensary at Dam Site.)
- (b) Carry all works to the premeditated assembly point
- (c) Take Roll call of assembled persons.
- (d) Passon information in respect of absenteeism/ missing persons to the control room at site.
- (e) Put in all efforts with the help of fire-fighting staff, divers or other personnel of army present at site.
- (f) Use the facilities available at each control room as per annex-XII if required.
- (g) Maintain daily diary of work progress & submit report in this regard to control room as well as to high officers.
- (h) They will also attend to any other responsibility as assigned by SE (PDC), SE Talwara Circle or CE Pong Dam.

(i) Ensure that list of persons working in Dam area under XEN RM, XEN PDD, XEN Electrical & XEN Mech. is available with them as per Annexure –XIX. They will attend to the downstream area up to Ghaner Terrace during such eventuality.

2.1.2 TEAM AT SANSARPUR TERRACE:

It will comprise of the following members under the overall control of Executive Engineer Mechanical Division.

They will put all efforts for the rescue & transport of the casualties and would discharge all the responsibilities as detailed for team at Dam site. It is important to mention here that the above team would manage & ensure operation of rescue in the area up to Ghaner Terrace u/sandd/s upto Talwara colony or as per the gravity of the situation in consultation with team leaders operating in the colony area. The help of the local area N.G.Os. or Sarpanchs of the surrounding villages may be requested / asked for. The list containing contact no. of N.G.O. of the area appended as annex XIII.

2.1.3 TEAM TALWARA T/SHIP

This team would comprise of the following team members and would be headed by two number XENs as below.

Team- A	Team-B
XEN Township Talwara S.D.O Estate S.D.O Water Supply S.D.O Enforcement	Superintendent Procurement A.S.P.-1 A.S.P.-2 S.D.O. Horticulture & Sanitation

In the event of high flood passage, the possibility of inundation of the whole T/Ship area and the countryside area adjoining to the BBMB colony is an imminent possibility. So in order to meet with the situation two nos. teams have been formed Team A would be in operation and will manage rescue and

evacuation work in the area up to sector-2 the road perpendicular to the State highway leading to, Sanata Dharam Mandirin Sector-2 and up to the other end straight. Whereas team B would be responsible for similar in the area left to the above said road (leading to Mandir).

For quicker management and timely action, the help of the NGO's/ Gram Panchayats of the area can be sought. the list of NGO and Pradhan of village is appended as Annex-XIII.

XEN T/Ship will also request his counterpart in Shah Nahar Colony for the formation of the similar teams for handling the imminent situation. The duties & responsibilities of the above team are as under: -

(a) They will attend the rescue & evacuation operations on priority basis. They will transport immediately the victims or casualties to the nearby medical Centre /first-aid Centre for prompt medical aid to the sufferers.

(b) For having immediate help of men and material during the period of such exigency, they will contact local NGOs and village Sarpanchas per list attached at Annex XIII. This also includes food and clothing.

(c) They will also collect the information regarding the loss of human life, livestock and loss to the housing etc and will further pass on this information to the control room established in the colony at safe and easily accessible pre planned place.

(d) The evacuated persons will be transported to the shelters at higher elevation (Plan attached at Annex XX). Where the affected persons may be stationed with temporary housing such as tents, nearby school building or place such as Mandir and Gurudwara etc.

(e) The routine roll call of persons deployed be made invariably in assembly point. Absenteeism / missing persons will be reported to the control room and to the higher authorities.

(f) For fresh instructions, if any, they will also keep contact daily with higher officers.

(g) To ease the hardship of the affected persons, in the area they will make alternate arrangement for water supply if the present system has gone out of order due to flooding and is not repairable.

(h) They will maintain daily diary of the event and work progress and submit report in the regard to the higher officers as well as to the established control room.

(i) They may use the facilities available at each control room as per annex-XIII.

2.1.4 TEAM FOR ENSURING ELECTRIC SUPPLY COVERING THE AREA FROM DAM TOP TO TALWARA T/SHIP

The duties & responsibilities of the team areas under: -

(a) They will make all out efforts to ensure temporary lights (if electric supply has gone out of order) during such an eventuality if need be.

(b) Safe shut down wherever required/ needed should be organized/ ensured to avoid any mishap.

(c) They will organize all support services like power, temporary lighting and operation of the water pumps etc.

(d) They will also arrange to organize dewatering of the inundated area up to dam site if any.

(e) The routine check-up / roll call shall be exercised on particular pre-planned assembly point. The absenteeism would be immediately reported to nearest control room and to the higher authorities also.

(f) They will maintain daily diary of events and work progress and submit report in this regard to higher officers as well as to the established Control room.

(g) They may use the facilities available at each control room as per Annex-XII.

(h) They may control the local NGO's and village sarpanches as per Annexure-XIII for any help during such exigency hour.

2.1.5 SECURITY TEAM FOR PONG DAM & T/SHIP AREA

Project Security Officer DSP	Project Security Officer DSP
1) Inspector security	Inspector security
2) Sub Inspector	Sub Inspector
3) Assistant Sub Inspector	Assistant Sub Inspector

Security team would keep a constant watch on the ongoing emergency operations from all angles during any exigency to meet the challenge of inevitable flooding or an event of sabotage as the case may be. For this, Project Security officer would frame two teams one for Pong Dam area and the other for Talwara Township colony area. The team would be responsible to: -

- a. Provide timely access to emergency services.
- b. Manage all project entry points
- c. Prioritize vehicle movement to the emergency site.
- d. Not allow any unauthorized person entry in to emergency site.
- e. Divert the traffic through pre-planned alternate.
- f. To permit authorized persons/recognized agencies with minimum delay who have come to the help during such hour.
- g. Any other responsibility as assigned by higher officers i.e. Director Security Chandigarh or C.E. Pong Dam.
- h. The Contact number of different agencies/ bomb squads to be contacted at that time is placed at Annexure X.

2.1.6 COMMUNICATION TEAM FOR ESTABLISHING COMMUNICATION NETWORK DURING EMERGENCY

Communication system will have to be kept well maintained during such exigency at Pong Dam as in colony area. The team will be responsible.

- (a) To set ready suitable persons to act as messengers in case of failure of communication system.
- (b) To keep the system is running condition and its timely use at the hour of emergency.
- (c) To ensure timely repair/maintenance if normal system goes erratic.
- (d) To discharge any other responsibility as assigned by higher officers.
- (e) Report in this connection to higher officer as well as to established control room.

2.1.7 MEDICAL ASSISTANCE TEAM

This team has been entrusted with very important job assignment of providing immediate medical assistance to the victims, during unusual occurrence at dam site or in Township area. The important duties of this team include: -

- (a) To set emergency post at emergency site in consultation with XEN Pong Dam division at dam & with consultation of XEN T/Ship in colony area.
- (b) To make available readily medical equipments & medical as per requirement in first aid centre
- (c) To ensure timely shifting of casualties to nearby hospitals/ medical centers.
- (d) To make suitable arrangement of vehicle for carrying out casualties in consultation with XEN mechanical.
- (e) To keep contacts with other Govt. / Non-Govt. dispensaries / hospital in the surrounding area.
- (f) To maintain daily diary of events and work progress and submit report in this regard to higher officer as well as to the established control room.

- (g) They may use facilities available at each control room as per Annex. XII
- (h) They will also arrange medicines especially for gastroenteritis or other water borne diseases.

2.2 CONTROL ROOM: The control room is a very important component of E.A.P for monitoring & coordinating the actions of various agencies involved in dealing with the imminent emergency situation. Two number control rooms have been set up each at Pong dam site as well as in Talwara colony area in consultation with XEN Pong Dam & XEN T/Ship for respective sites. The team members in each case will be as enlisted under:

SDE Water Regulation (Dam site)	XEN HRD/Env. (Talwara Colony)
ADE Water Regulation	SDO Control survey
JE Water Regulation	JE Silt Survey

S.E/Head-quarters Talwara will be the overall in charge of both the control rooms. All types of functioning will be guided by him. He will keep a direct liaison with different agencies discharging duties during such hour. The control room will be well equipped with all types of information in relation to the activities being performed at sites to handle the unusual occurrence. The control room must have the facilities available as enlisted in Annexure- XII.

The execution of work, if required, would be round the clock. The team leader in each case would be responsible for smooth working of the control room. They will establish continuous contact with I.M.D. through XEN Water Regulation for any abrupt change in the catchment area. They will manage a continuous flow of information from the control room set up by district authorities and update the control room accordingly.

2.3 E.A.P. CO-ORDINATOR'S RESPONSIBILITY

E.A.P. co-coordinator will share the load of responsibility of the activities of revisions to E.A.P. whenever needed. It should be in the form of yearly exercise. For this the trainings & drills will be arranged and the record there of will be well maintained separately. He will have an intimate

knowledge and motivating spirit to make the E.A.P. more effectively implemented. Amendments to E.A.P., if any undertaken during annual review shall be well circulated. Even in the instance when no amendment is made, a circular shall have to be issued for the purpose. Any party can contact co-ordinator for any quarry regarding the plan.

2.4 APPROVAL OF THE PLAN: -

The E.A.P. would be involve or supposed to be involve presently in the implementation at the time of any mishap on Pong Dam assuming thereby that all parties involved are aware of and fully agree to the roles assigned to them during such emergency. Accordingly, the names of related parties have appended as Annexure – XVI.

3.0 EMERGENCY PROCEDURES: -

3.1 Emergency Identification, Evaluation and Classification

It is mandatory on the part of Executive Engineer Pong Dam Division to determine and identify situation that requires an emergency action. Therefore, establishment of procedures for timely recognition are imperative. To serve as a guide at that time following emergency identification, evaluation & classification procedure elements are detailed below: -

A list of the conditions or events which could lead to or indicate an existing or potential emergency. Situations involving flood emergencies due to a breach or other structural failure as well as a major flood without a breach should be included. Unusual situations such as those cause (a) by overtopping of a dam due to insufficient spillway capacity during large inflows to the reservoir (b) by seepage or piping through the dam over long internal conduits. (c) Slope embankment slides (d) earthquake damage (e) landslide generated waves within the reservoir. Hydraulics, hydronamics, hydrology, sediment transport mechanics and geo-technical aspects are all involved in breach formation and eventual dam failure. The prominent causes can be listed as follows:

- 1) Extreme storm
- 2) Landslide
- 3) Earthquake
- 4) Overtopping
- 5) Structural damage
- 6) Piping
- 7) Equipment malfunction
- 8) Foundation failure
- 9) Sabotage

The above unusual situation can be divided into 3 categories: -

a) Hydrologic: These are related to flooding due to large releases, seepage, slumping, piping, embankment reformation, embankment overtopping, movement of concrete section (sliding or over turning) settlement, failure of spillway gates or supporting structures, spillway & outlet works releases, equipment malfunction etc.

b) Earthquake: These are related to impact of earthquake at dam which could lead to embankment piping, embankment cracking, embankment deformation, liquefaction and movement of concrete section etc.

c) All other events: These are related to hazardous material spills / releases, equipment failures, security / criminal actions, fish /wildlife impacts, wildfires, structural fires, landslides, extreme storm, sabotage etc. One or more of the above unusual situations will initiate declaration of an emergency for internal alert or external alert.

A brief description of the means by which potential emergencies will be identified, including the data & information collection system, monitoring arrangements, surveillance, inspection procedures and other provisions for early detection of conditions indicating an existing or potential emergency. Emergency events occur with unusual situation, varying degrees of severity and predictability. An emergency may develop gradually and be steadily

monitored providing ample response time. Conversely, an emergency may develop suddenly requiring immediate emergency response to prevent devastating loss of life or impacts to structures or the environment. The following definitions are used to classify emergency events according to an Ascending and progressive order of severity to which the dam down stream or off-site population, structures or environment are threatened. Condition may dictate that situation is classified as imminent without passing through the less severe situations. A smooth transition should occur, if the situation is classified as developing prior to imminent.

Assessment of degree of seriousness of unusual situation is required. It may be classified as the Blue, Yellow, Orange and Red level alert accordingly to their seriousness.

Guidelines lie mainly in the interface between the internal and external emergency planning, being the two main aspects of the following: -

(a) Definition of alert levels: If an incident happens with the dam or problem arises related with the dam over its foundations or with landslides into the reservoir, earthquakes, adverse meteorological situation or any other alert must be given to civil protection system. The gravity of the problem may obviously vary with the situation, but in order to assure that all the entities involved in emergency actions are behaving in accordance with the situation, the alert levels need to be previously defined, and must be the same for the internal external emergency plan of each dam.

These alert levels are established in colours, from Blue, the lowest. Level that corresponds to a routine or normal situation, to Red, corresponding to a serious or catastrophic situation. The alert levels defined are presented in Annexure III its underlying philosophy relates the gravity of dam problems with the expected impact in the downstream valley and the likelihood of the total dam rupture.

b) Alert and warning systems: When facing problematic situation, the

entity exploring the dam must judge the corresponding alert level and notify the civil protection system, in order to allow the development of the necessary action, according to the situation.

If the dam rupture is very likely (orange alert level) or imminent (red level) give —external alert signal and the entity exploring the dam must warn population down stream of the dam. In orange level, the warning indicates people to be ready for evacuation and in red alert to evacuate quickly. Given that a dam rupture can be very sudden, it is assumed that people leaving up to a certain distance downstream of the dam have to be evacuated by their own means, with no time to wait for civil protection help.

Procedures, aids, instructions and provisions for interpreting information and data to assess the severity and magnitude of any existing or potential emergency should be clearly defined. The table covering different emergency situation demanding entirely separate approach to tackle each case is given as Annexure-III.

3.2 NOTIFICATION PROCEDURES:

Notification procedure is no less important part of E.A.P. For this SE (HQ) has been assigned to be spokesperson to pass on the information to be news media such as Radio, T.V. and Newspapers. He is also the coordinator of E.A.P. This will be followed in letter & spirit that the passing on of information will be exclusive domain of SE (HQ). The news media will be informed keeping public interest in view and avoid sensational news making. Coordinator shall be assisted by the team heads and their under associates for feedback. The name and position and office, home telephone of to be notified have been enlisted at Annexure –XIV. The list showing who is to make call to whom & in what priority finds mention at Annexure –V.

The necessary format for supplying the information during notification to the media is as follows: -

- (i) This is (name, title, agency) monitoring/ PongDam

- (ii) The date is _____ and time is _____
- (iii) The conditions at Dam are _____
- (iv) We will notify you if the conditions at the dam change. We will give you briefing at _____ hours or sooner.
- (v) For further information contact at BBMB control room telephone No. _____ or _____
- (vi) This message will be sent to you in the text form of fax or others.

3.2.1 EVENT REPORT: -

The incharge shall ensure that the following report forms are to be used when recording various emergency situations and unusual occurrences: -

- i) Emergency event unusual occurrences report for reporting emergency events and unusual occurrences other than earthquakes, bomb threats and oil and hazardous spills. Form-I.
- ii) Earthquake Damage report-for reporting earthquakes. Form-2
- iii) Bomb threat Report- for reporting bomb threats. Form- 3.

These forms have been attached as Annexure XV.

The needed action to bring the situation under control at the site will be taken by S.E. Pong & XEN Pong Dam Divn. If urgency of the matter so requires, Director Designs; Expert Engineers as per Annex- XVII may be consulted for assistance during such an exigency. The following points are required to be taken care of: -

- (1) All agencies, persons notified should be documented separately during such a mishap.
- (2) Immediate sanction of funds will be accorded by CE Pong Dam in anticipation of sanction of estimate.
- (3) It is required that each individual should maintain diary for recording messages received & duties assigned.
- (4) For complete documentation of the event, the video recording/ photography of emergency site is a must.

(5) Attendance at site should be made invariably during occurrence of such emergency.

(6) Executive Engineer Pong Dam division should prepare a formal status report for the dam facilities which should contain date, time, location of observation. Water level in the reservoir, inflows / outflows and other related parameters.

(7) In the event of terrorist attack / sabotage the formal status report would be developed accordingly.

4.0 PREVENTIVE ACTION: -

Preventive actions are the actions required to be carried out to avoid any unto-ward incident to important installations at Dam which may Otherwise result in failure the dam embankment, deformation etc and loss of life & property downstream. In case of any inevitable identified situation going out of control and putting the stability of the dam in danger, the residents of the area likely to be affected immediately will be given warning for evacuation to the safer places. This also includes the persons working / deployed in the power house and in other u/s/& d/s locations who are to be informed well in time for evacuation to safer places. This step has to be taken shortly by XEN Pong Dam Division or by his representative after identification declaration of emergency. The other preventive actions include: -

4.1 SURVEILLANCE: - This is very important preventive action. For this, the dam and its appurtenant should be watched with great care. The rim of the reservoir (left & right) should also be attended to up to reasonable distance in rainy season to avoid any unto-wards incidence likely to take place. For this competent person well conversant with the emergency operations at dam (as per O&M) should be deputed which is an important requirement of EAP

during high floods. In addition, it must be ensured that the repair and maintenance of the project is strictly carried out as contained in O&M of the project. The list of persons who are well trained & fully conversant with the emergency operations should be displayed at convenient place at dam site. A list of local telephone numbers inside the dam body i.e. Telephone directory dam site is appended as Annex-XVIII. The list of persons working in dam area in different sub divisions / locations is appended as Annex.

XIX. This list is required to be updated from time to time for any changes.

4.2 ACCESS TO THE SITE: -

It must be ensured by XEN (PDD) that primary and secondary routes to site of emergency are well maintained and site is easily approachable during the emergency hours. Means of access to site should be clearly defined in case of emergency situation when it is urgently required to arrange for reconstruction activities to avoid any confusion to different agencies operating at that time. A layout plan of the area showing alternative routes also for easy approach is attached as Annexure-XX.

4.3 EMERGENCY SUPPLIES AND RESOURCES

There are certain planning and organizational measures that can help Dam personnel and local officers to manage emergency situations more safely and effectively. These include: -

4.3.1 MATERIAL AVAILABILITY

Material needed for emergency repair may be stock piled at a nearby convenient safe place from where it can be used whenever there is emergent need for small quantum emergency jobs. For major emergency need bulk supply sources be before hand identified as per different zones in embankment of Dam and their timely supply has to be assured by XEN Pong Dam Division. Material such as earth or sand gunny bags to be kept ready in near vicinity of the dam for their immediate use.

4.3.2 MACHINERY EQUIPMENT AVAILABILITY

The different types of machinery are required for carrying out different activities during course of reconstruction or other use. Some machinery has been stationed permanently at Top of Dam R.L.1430 ft. and the rest at Sansarpur Terrace to meet with any emergency. The list of machinery alongwith operators available at Bhakra is appended as Annex XXI. Detail of more machinery available with BBMB at BSL Project, Sundernager and Beas Dam at Talwara which can be arranged shortly is detailed at Annexure-XXII.

4.3.3 CONTRACTORS

If required, contractor / contractors can also be engaged at the time of any emergency arising at Dam site likely to put the safety of structure in danger, S.E. (P.D.C) in consultation with Chief Engineer, Pong Dam will finally decide about engaging the services of contractor /contractors immediately after inspecting /Evaluating the gravity of the situation. The list of contractors having expertise in the field and supposed to be competent enough to handle emergency situation of lesser magnitude has been appended as Annexure-XXIII along with type of machinery available with them. The list also contains their contact numbers. However, for undertaking repair / reconstruction jobs of high quantum, the list of very renowned firms having good experience is appended for reference & immediately contact at Annexure –XXIV.

4.3.4. LABOUR

The labour required during the execution of the work will have to be arranged locally. XEN, Pong Dam will make all such arrangements in shortest possible time. A list of contractors who can make labour available has been appended as Annexure XXIII.

4.3.5. ENGINEERS EXPERTS

During any emergency S.E. (PDC) /XEN Pong Dam will contact/ call on request the Engineers / persons having expertise in the field. A list of persons /retiree who contributed a lot during their service with the project has been attached as Annexure –XVII. These persons may prove helpful for better guidance to tackle

/ handle the emergency situation promptly & properly.

4.4 CO-ORDINATING INFORMATION ON FLOWS: -

On receipt of precise and accurate information about the high floods likely to impinge, Director Water Regulation Nangal in consultation with the Member Irrigation and C.E. Pong Dam will arrange lowering of reservoir level in anticipation of approaching floods with through study of the situation. Director water regulation will make requests to Director Power Regulation & C.E. system operation & concerned Chief Engineers for stopping releases d/s Bhakra dam during high flood hours so as to ease out the situation in rain Beas Dam Pong Dam.

During high flood period Director Water regulation, SDE water regulation Talwara will keep constant watch on the inflows at Pong dam. In case of any flood impinging the reservoir, Director Water Regulation/ SDE Water Regulation will issue instructions to Executive Engineer Mechanical /SDO gates & gearing to operate the spillway gates specifying discharge to be made /gate opening such that Pong Reservoir level does not exceed 1400ft. Executive Engineer Mechanical / SDO Gate & gearing will issue instructions to his staff to open the gate accordingly as per the discharge/ gate opening intimated by Director Water Regulation / SDE Water regulation and will confirm to SDE Water Regulation Talwara.

Whenever the releases d/s Pong Dam are more than 50,000 cs, SDE Water Regulation Talwara will issue the flood warning to the officers mentioned at Annexure- XXV through Police wireless system as well as through canal telegraph office. The above action will be repeated whenever the releases from Pong Dam are to be increased to pass the flood water.

Due consideration has to be given to the following Para of O&M of Pong Dam while passing floods which reads as:

—In case of high floods, if the reservoir level exceeds 1400ft. despite raising all the radial gates even to an extent that bottom of gates is above EL. 1400

ft. than at that time all the gates, must be opened further to an extent that the bottom of the gates does not remain below EL. 1419 ft.

Further in such an emergency situation, SDE Water Regulation Talwara will remain in touch invariably with IMD, CWC & catchment area of river Beas u/s of Pong Dam and collect information about the floods impinging the reservoir. He will also pass in this information to Director Water Regulation, SE (HQ), XEN Pong Dam & XEN Mechanical. SDE Water Regulation will make day & night discharge observations arrangement at the important discharge sites through his staff.

A list of persons along with their contact number responsible for the collection of information relating to inflows and working in Dam area is attached as Annexure-XXI. It will be ensured by SDE Water Regulation that the work of observation u/s as well as of Pong Dam at different discharge site runs smoothly even during the period of darkness, inclement weather and non-business hours. The list of persons deployed at discharge sites find mention at Annexure- XXVI.

4.5 PROVIDING ALTER NATIVE SOURCE OF POWER

In the event of power failure during crucial hours of emergency at site when different activities are running simultaneously, it is very much imperative to have an alternative source of power to meet with such situation so that the execution may be carried out smoothly without any hindrance. At Pong Dam all the important mechanical installation has been provided with D.G. set arrangement as an alternative source. The smooth operation of D.G. sets at different location to be ensured by concerned XEN Mechanical. There may not arise any complicity at the time of emergency when electric supply goes out of order.

5.0 EXECUTION OF WORK AT SITE

Chief Engineer Pong Dam, SE (PDC) Director Design Director Dam Safety would decide depending upon the quantum of repair / reconstruction works, whether the work has to be got executed through large construction forms or purely

through the department. The Executive Engineer in-charge at site will ensure that construction work at site of emergency is being carried out strictly in

accordance with construction drawings & specifications or any other decisions taken by above officers at site.

For ensuring quality control ARO and his staff would be requisitioned. Engineer in-charge of the site would get the stock piled material tested for its suitability for all purposes before its use at site. The daily progress at site will be recorded shift wise. All officers are supposed to perform their duties as per as list of responsibilities assigned to each individual division wise. Any discrepancy noticed at the site of work / during execution should be brought to the knowledge of Engineer-in-Charge and he will try to remove / rectify such discrepancy promptly so that progress of work is not suffered.

6.0 INUNDATION MAPS:

Inundation maps is an important component of EAP these are usually needed to develop an adequate evacuation plan when numbers of dwellings are located downstream of the area where emergency has taken place. Also it appraises the responsible emergency management authority of column of water at different locations which helps the authorities to take appropriate steps accordingly.

It is pertinent to mention here that the inundation maps for downstream area of Pong Dam are available with Punjab Drainage Department / Himachal Govt. It is there, required that inundation maps for vulnerable reaches (in case of any expected mishap) should be developed / made available by Punjab Drainage Deptt. / Himachal Govt. No action in this connection is required to be taken by BBMB authorities. However, the important installations/ offices of BBMB d/s of Pong Dam i.e. Ghaner terrace, S.P. Terrace, Colony area will be looked into by BBMB authorities and is adequately covered under this document during such eventuality of high floods.

7.0 Description of Location of Pong Dam

Beas dam (Unit- II) also named as Pong Dam comprises an earth-core gravel shell dam 132.6 (435ft) high above the deepest foundation level and 100.6m (330ft) high above the normal river bed. It is located at Pong which was a tiny hamlet on the right bank of the river Beas in Kangra district now in Himachal Pradesh and is at a distance of about 40km (25 miles) from Mukerian, a railway station on the Delhi-Jammu railway line. The site is about 483km (300 miles) north-north west of Delhi bearing its co- ordinates as 75-50'-0 E longitude and 30-58'-30 N latitude. It has a surface power house, located downstream of the left abutment of the dam clear of the dam toe. The power house has an installed generation capacity of 396 MW (66 MW x6). The dam is well connected both roads. The broad salient features of the project have been appended as Annexure-II.

8.0 TRAININGS:

To ensure that persons discharging responsibility under the plan are well familiar with the entire element contained there in, the training to all these persons is a necessary component of EAP with this they will come to know about their duties and responsibilities and availability of different equipment's in the plan. Each individual is supposed to be welltrained for identification, detection & evaluation of particular situation so that Alert level could be triggered accordingly.

A training imparted could be included as an appendix to the EAP. Exercise simulating sliding over topping or breach of the embankment due to high floods & malfunctioning of mechanical installation may be considered for Mock drills to ensure proper & prompt response at every level. A sufficient number of people could be trained to ensure adequate coverage at all times. A careful roster should be kept of training completed. Persons should be given training at more than one responsible position so that alternates could be provided for each position. In the event when a particular person as per Notification Flow Chart (NFC) is not available due to some reason, his alternative as per list in annexure-XXVII is supposed to perform the duty.

9.0 DUTIES AND RESPONSIBILITIES TO BE DISCHARGED BY DIFFERENT OFFICERS DURING EMERGENCY HOURS AT PONG DAM ARE ENLISTED AS BELOW:

Designation/ Address	Duties and Responsibilities
9.1 Chief Engineer Beas Dam, BBMB Talwara 01883-237131 (O) 9352714841 (M)	1) To notify / inform higher authorities of BBMB/outside agencies about the mishap as per notification flow chart of particular Alert level as per situation at site. 2) To notify District Magistrate who is Chairman Co-ordination Relief Committee, Hoshiarpur. 3) To keep close watch of the different activities being carried out by different agencies at the time of emergency. 4) To accord all anticipation sanctions at site 5) To make request notify Chief Engineer BSL Sundernagar and Chief Engineer, Bhakra Dam Nangal for providing required resources as per Alert level. 6) To provide all types of information to Board office in regard to evacuation, rescue & relief operation. 7) He will ensure the timely restoration of all the works after emergency over. 8) He will also contact the large construction companies having expertise in Dam construction activities. 9) In Case of terrorist attack or sabotage as informed by P.S.O, he will immediately inform higher officers as per N.F.C & also guide the officer under his control to act promptly.

	<p>10) He will request C.E.B.S.L as well as C.E, System operation for not making releases d/s Pandoh Dam.</p> <p>11) He will also request C.E, Bhakra Dam and C.E, System Operation for reducing the releases d/s Bhakra Dam as for as possible.</p>
<p>9.2 S.E. (HQ) Talwara BBMB, Talwara 01883-236047 (O) 9530903084 (M)</p>	<p>1) To notify /inform different agencies / officers as per notification flow chart of particular Alert level as per situation at site.</p> <p>2)To keep constant liaison with Civil Authorities of Punjab & Himachal and all other including all the Superintending Engineer / Directors under Pong Dam administration, Pollution Control Kangra.</p> <p>3) He will supervise the functioning of control rooms and will be well equipped with all type of information including rescue & relief Operation etc.</p> <p>4) He will act as EAP Coordinator and responsible for all EAP related activities such as trainings, drills and revision to EAP if any.</p> <p>5) Being spokesperson, he is required to disseminate information and make contact to utilize media as appropriate at the time of emergency on behalf of Chief Engineer, Pong Dam.</p> <p>6) He will also ensure that no visitor pass is issued to anyone and no vehicle will be allowed to cross the top of Dam during such emergency period.</p>
<p>9.3 S.E. (PDC) Talwara BBMB, Talwara 01883-236125 (O) 8264925934 (M)</p>	<p>1) To have timely and reliable identification, evaluation & classification of existing potential emergency condition as per information of XEN, Pong Dam Divn.</p>

	<p>2) To notify /inform different agencies / officer as per notification flow chart of particular Alert level as per situation at site.</p> <p>3) To keep liaison with all SEs/Directors, teams to handle disaster, XENs and other involved directly / indirectly to handle the disaster.</p> <p>4) To keep close watch / supervision at site when construction activities of any quantum are in progress.</p> <p>5) To ensure that work at site is being carried out strictly as per construction drawings and specifications or any other decision taken in consultation with experts, C.E. Pong Dam, Director Design & Director, Dam Safety, S.E. Talwara circle at site.</p> <p>6) He will ensure that there is no danger of spread of any epidemics or water borne diseases after the floods.</p> <p>7) To accord sanction in anticipation as per emergent Rules of DFR provisions within his competency.</p> <p>8) To keep close watch on rescue, relief and evacuation operations being carried out by different teams.</p> <p>9) To ensure proper access to site at the earliest possible.</p> <p>10) To ensure that all lighting arrangements have been made at all emergency locations (Pong Dam & colony area) including requirement of Power Supply to all equipment / machinery.</p> <p>11) Adequate lighting arrangement should be</p>
--	--

	<p>ensured at all identified / vulnerable sites well in advance in anticipation of any mishap.</p> <p>12) To provide all types of information related to the execution of work to S.E. (HQ) from time to time.</p> <p>13) Adequate lighting arrangements should be ensured at all identified / vulnerable sites well in advance in anticipation of any mishap.</p> <p>14) To keep liaison with civil authorities who have been carrying all rescue & relief operation at site of emergency & also remain in touch with control room of Civil authorities. Also to provide all type of information to BBMB Control room at Pong Dam as well as in Township area.</p> <p>15) He will ensure timely action to arrange for some suitable / competent agency or agencies to take up the reconstruction activities at dam site / colony area to restore the occurred damages due to floods.</p> <p>16) He will ensure that releases from Bhakra d/s into Sutlej have been reduced to maximum during the period of un-presidents floods impinging Pong dam.</p> <p>17) To use Report Form No. 1, 2 and 3 when recording various emergency situation and unusual occurrences. These forms have been attached with EAP as Annexure-XV.</p> <p>18) He will ensure that proper action has been taken by Project security officer in case of any Sabotage or terrorist attack at the site as enlisted in duties & responsibilities of Project security officers.</p>
9.4 S.E. Talwara Circle BBMB, Talwara	<p>1) To notify / inform different agencies / officers as per notification flow chart of</p>

01887-236013 (O)	particular Alert level as per situation at site.
9888760691 (M)	<p>2) To ensure that all related machinery / equipment are in running conditions and have been deployed as per requirement of S.E. PDC/XEN Pong Dam division.</p> <p>3) To ensure that all type of material available and required at site of emergency is being delivered by Supdt. Proc. Central Stores, Nangal Township.</p> <p>4) In case of power supply failure alternative arrangement of supply of power to equipment / machinery and at emergency locations is being ensured.</p> <p>5) To ensure repair / mtc. of machinery, if required, at site by deputing a team of expert mechanics so as to carry smooth working at site.</p> <p>6) He will put all efforts for an early restoration of the normal work.</p> <p>7) To have liaison with S.E. NMC Circle, S.E. BSL Circle-II, Sunder Nagar and Ranjit Sagar Dam administration for any required resources other than available.</p> <p>8) Formation of purchase committee / committee in consultation with C.E. Pong Dam for procurement of material from appropriate resource through spot purchase.</p> <p>9) To ensure procurement of different lubrications and spare parts for smooth running of machinery.</p> <p>10) To remain in touch with C.E. Pong Dam, S.E.P.D.C. & S.E.(HQ) during such emergency hours.</p>

<p>9.5 Director, Designs BBMB Nangal 01887-223108(O)</p>	<p>1) Director Design should inspect the emergency site immediately when he gets the information of such mishap and to offer remedial / suggestive measures at site.</p> <p>2) Director Designs will ensure all time availability of SDE's & ADE's and drawing hands under the administration for imparting any required guidance to field persons at site or issuance of construction drawings, if necessary, during the execution phase of damaged site.</p>
<p>9.6 Director, Dam Safety BBMB Nangal 01887-223179(O)</p>	<p>1) Director Dam Safety should inspect the site when he gets the information of any mishap of Pong Dam and to offer any remedial / suggestive measures for ensuring total safety of the structure.</p> <p>2) Director Dam Safety will also ensure the availability of staff under his administration during emergency hours.</p>
<p>9.7 Director Water Regulation BBMB Nangal 01887-223758(O)</p>	<p>1) To notify / inform different agencies / offices as per notification flow chart of particular Alert level as per situation at site.</p> <p>2) He will also keep liaison with authorities at Harike as well as Madhopur Head works.</p> <p>3) To keep constant liaison with Member, Irrigation, BBMB, Chandigarh, Chief Engineer, Pong Dam, Talwara, S.E. PDC and S.E.(HQ) Talwara.</p> <p>4) He will issue directions to SDE, Water Regulation, Talwara for making, releasing d/s of Pong Dam.</p>

	<p>5) He will also keep constant liaison with I.M.D. during such emergency period.</p> <p>6) He will request authorities at Madhopur link to stop release water into river Beas as the river is already running full due to continuous high releases from Pong Dam.</p> <p>7) He will request Director Power Regulation and C.E. System Operation for not making releases d/s Pandoh Dam and request for reducing releases d/s Bhakra Dam.</p>
<p>9.8 S.D.E. Water Regulation BBMB, Talwara 01883-236008(O) 9417201136 (M)</p>	<p>1) To notify / inform different agencies / offices as per notification flow chart of particular alert level as per situation at site.</p> <p>2) He will pass on information as a warning notice of emergency of routing high floods to all the regulating agencies having concern with the releases from Pong Dam.</p> <p>3) To keep constant liaison with Director, Water Regulation, Nangal, SEPDC, SE Talwara Circle, Se (HQ) Talwara & XEN, Pong Dam Division, XEN Mechanical Division, XEN Shah Nehar Barrage during such mishap.</p> <p>4) He will act promptly as per instructions contained in O & M of Pong dam Project.</p> <p>5) He will immediately inform XEN, Shah Nahar-Barrage about imminent developing situation at Pong.</p> <p>6) He will provide all type of information Periodically to SE (PDC) and control</p>

	room established in Colony area.
	<p>7) He will also ensure that daily diary is maintained in respect of each activity carried out at site by persons/staff under his control and all the higher authorities are apprised accordingly during such emergency.</p> <p>8) He will also make day and night discharge observation arrangement at the discharge site under his control.</p>
<p>9.9 XEN RM Division, BBMB, Talwara 01883-236192(O) 8968176839 (M)</p>	<p>1) To notify / inform different agencies / offices as per notification flow chart of particular alert level as per situation at site.</p> <p>contact members of skilled / unskilled working under his control.</p>
	<p>3) Record / strength of skilled workers of different categories whose services are required during emergency operation should also be available.</p> <p>4) XEN should also keep a list of readily available all types of stores under his control along with available quantity of each item.</p> <p>5) XEN should also keep a list of alternative arrangement in the absence of skilled workers, readily available.</p> <p>6) XEN should also keep a list of machinery in working under his control readily available.</p> <p>7) Mode of conveyance & shortest possible route to the emergency site should be identified well in advance in consultation with XEN R.M. Division.</p>

	<p>8) To maintain daily diary in respect of activities performed by persons under his control & appraise S.E.PDC about the same.</p> <p>9) He will maintain a constant liaison with XEN Pong Dam and S.E.PDC during such eventuality or mishap.</p> <p>10) He will make a pre-planned arrangement for deploying the persons on site of emergency so that work can be performed smoothly and promptly. He will also inform villages Pradhans u/s about rising R.W.L. as per Annexure-XIII.</p> <p>11) He will ensure that all stock present in his stores such as cement, sand and aggregate is fresh and quite sufficient for its use at emergency site. Batch of piled up cement should be mentioned clearly.</p> <p>12) Xen should also keep a record of local persons well trained in swimming, diving and who will help in rescue & relief operation at emergency site, especially persons from water sports complex and loading centres.</p> <p>13) XEN will also keep a list of persons having private boats with them for rescue operations during emergency hours. He may also contact water sports authorities.</p> <p>14) XEN should also ensure attendance 24 hours during such emergency.</p> <p>15) XEN will also maintain liaison with loading centres of fishery Department in Pong reservoir for arrangement of boats & boatmen if required, during the operation of rescue & relief as per Annexure-IX-A.</p>
--	--

	<p>16) XEN will also ensure that duties to him in team for rescue, relief and evacuation operation at Bhakra are discharged properly during emergency hours. (For emergency due earthquake as well as sabotage or terrorist attack).</p> <p>17) He will also ensure that firefighting arrangement under his control is well equipped and ready to perform duties in shortest possible time during emergency hours.</p>
<p>9.10 XEN Pong Dam Division, BBMB, Talwara 01883-236061(O) 9815516839 (M)</p>	<p>1) To have timely and reliable identification, evaluation and classification of existing and potential emergency condition in consultation with SE(PDC), SE Talwara Circle & CE Pong Dam.</p> <p>2) To notify / inform different agencies / offices as per notification flow chart of particular alert level as per situation at site.</p> <p>3) XEN should keep readily available with him contact members of all persons skilled / unskilled working under his control.</p> <p>4) Record / strength of skilled workers of different categories whose services are required during emergency operation should also be available.</p> <p>5) XEN should also keep a list of readily available all types of stores under his control along with available quantity of each item.</p> <p>6) XEN should also keep a list of alternative arrangement in the absence of skilled workers, readily available.</p>

	<p>7) XEN should also keep a list of machinery in working under his control readily available.</p> <p>8) Mode of conveyance & shortest possible route to the emergency site should be identified well in advance in consultation with XEN R.M. Division.</p> <p>9) To post a special observer at dam site during high floods.</p> <p>10) He will also ensure that no vehicle is allowed to cross the top of dam during such an emergency situation.</p> <p>11) To maintain daily diary in respect of activities performed by persons under his control and apprise SE (PDC) about the same.</p> <p>12) He will maintain a constant liaison with XEN-Mech. XEN Elec, XEN, RM and S.E. PDC during such eventually or mishap.</p> <p>13) To ensure that all lighting arrangement required are according to requirement of work site.</p> <p>14) To ensure that NFC's are posted in Pong Control Room, Power House & at other key locations.</p> <p>15) To ensure 24hours first aid / medical aid.</p> <p>16) After identification of emergency condition, he will stop all the routine works being carried out at dam site and in surrounding area.</p> <p>17) He will allow minimum possible persons to work inside the dam body</p>
--	--

	<p>(Urgent notice)</p> <p>18) He will also keep a readily available copy of key drawings of Pong Dam.</p> <p>19) He will ensure identification of sources of supply of suitable aggregates, natural or processed from nearby Khads or through co tractors.</p> <p>20) He will also ensure proper stock file of aggregate of meeting the demand of minor damages.</p> <p>21) He will make a preplanned arrangement for deploying the persons on site of emergency so that work can be performed smoothly & promptly.</p> <p>22) He will ensure that all stock present in his stores such as cement, sand and aggregate is fresh and quite sufficient for its use at emergency site. Batch of piled up cement should be mentioned clearly.</p> <p>23) He will also ensure timely identification of different types of material if needed for reconstruction activities as already used such as clay shale, sand rock, sand & gravel, sand, gravel, cobbles and boulders as per maximum section of dam (attached as Annexure-I)</p> <p>24) XEN shall also ensure that photography of the site of emergency has been carried out intensively. All the events have been covered fully till the completion of execution of work.</p> <p>27) XEN will also ensure that proper arrangement have been made to carry leveling of the site by survey party and</p>
--	---

	<p>assist during the repair construction activities of different controlling points.</p> <p>28) XEN should ensure that report form No. 1, 2 & 3 are to be used when recording various emergency situation and unusual occurrences. These forms has been attached with EAP at Annexure – XV.</p> <p>29) XEN shall also ensure attendance 24 hours at dam site during such emergency at Pong Dam.</p> <p>30) XEN will ensure that a formal status report for dam safety has been developed by him as per requirement of E.A.P.</p> <p>31) XEN will ensure that work at site is being carried out strictly as per construction drawings and specifications or any other decision taken in consultation with experts, C.E. Pong Dam, S.E. PDC, Director Designs, Director/ Dam Safety & S.E. Talwara Circle at site of emergency.</p> <p>32) He will seek immediate help from Civil Authorities through higher officers or directly in case of any potential emergency arising out of a sabotage act or terrorist attack.</p> <p>33) He will also Project Security Officer during above emergency at Dam site.</p> <p>34) He will also perform his duties as per para 2.1.1 for rescue & relief operation in case of sabotage.</p>
--	--

<p>9.11 XEN Township Division, BBMB, Talwara 01883-236004(O) 9815954877 (M)</p>	<p>1) To notify / inform different agencies / offices as per notification flow chart of particular alert level as per situation at site.</p> <p>2) XEN should readily available with him contact members of skilled / unskilled working under his control.</p> <p>3) Record / strength of skilled workers of different categories whose services are required during emergency operation should also be available.</p> <p>4) He will ensure availability of sufficient number of boats for their use in rescue and relief operation.</p> <p>5) He will ensure that there is no danger of spread of any epidemics or water born diseases after the floods.</p> <p>6) XEN should also keep a list of readily available all types of stores under his control along with available quantity of each item.</p> <p>7) XEN should also keep a list of machinery in working under his control readily available.</p> <p>8) Mode of conveyance & shortest possible route to the emergency site should be identified well in advance on consultation with XEN Pong Dam Division.</p> <p>activities performed by persons under his control & apprise S.E.PDC about the same. 10) He will make a pre-planned arrangement for deploying the persons on</p>
---	--

	<p>site of emergency so that work can be performed smoothly and promptly.</p> <p>11) He will ensure that all stock present in his stores such as cement, sand and aggregate is fresh and quite sufficient for its use at emergency site. Batch of piled up cement should be mentioned clearly.</p> <p>12) XEN will also ensure providing sheds, toilets for temporary stay of persons engaged in execution of work at site as per requirement of XEN Pong dam Division.</p> <p>13) He will also seek help from civil authorities as well as NGO's coming forward for the purpose.</p> <p>14) He will arrange to make mobile van announcements through public address system about the emergency.</p> <p>15) He will also ensure cleanliness and sanitation of the area during and after the occurrence of such mishap.</p> <p>16) XEN shall also ensure attendance 24 hours during such emergency.</p> <p>17) XEN shall also make all arrangements for temporary dispensary at site to give 1st aid to all during rescue & relief operation.</p> <p>18) He will also discharge his duties as team leader for rescue & relief operation in Colony area.</p>
--	---

<p>9.12 XEN Electrical Division, BBMB, Talwara 01883-236056(O) 9417206939 (M)</p>	<ol style="list-style-type: none"> 1) To notify / inform different agencies / offices as per notification flow chart of particular alert level as per situation at site. 2) XEN should readily available with him contact members of skilled / unskilled working under his control. 3) Record / strength of skilled workers of different categories whose services are required during emergency operation should also be available. 4) XEN should also keep a list of readily available all types of stores under his control alongwith available quantity of each item. 5) XEN should also keep a list of alternative arrangement in the absence of skilled workers, readily available. 6) XEN should also keep a list of machinery in working under his control readily available. 7) Mode of conveyance & shortest possible route to the emergency site should be identified well in advance on consultation with XEN Pong Dam Division. 8) XEN will ensure that adequate lighting arrangement have been made at all vulnerable points both at Pong Dam & in T/ship area. 9) XEN will ensure that all lighting arrangements have been made at emergency site including power supply to all equipment / machinery and to bring to the notice of S.E. PDC regarding each
---	---

	<p>activity performed / completed at site and to the satisfaction of persons working / executing the job at site.</p> <p>10) XEN will ensure that daily diary of each event / activity performed at site is maintained.</p> <p>11) XEN will ensure that in case of power failure adequate arrangement to run the equipment on alternative source of power has been made.</p> <p>12) XEN will maintain a liaison with XEN Pong dam, XEN RM, XEN Mech., S.E. Talwara Circle & S.E. PDC during emergency hours.</p> <p>13) He will make a pre-planned arrangement for deploying the persons on site of emergency so that work can be performed smoothly and promptly.</p> <p>14) XEN will ensure that sound arrangement under his control is trouble free & well maintained for evacuation of inhabitants in the near vicinity of mishap.</p> <p>15) XEN will also ensure attendance-24 hours during such exigency.</p> <p>16) He will also discharge his duties as team leader for rescue operation for ensuring electric supply for area from Dam to Talwara colony.</p>
<p>9.13 XEN Mechanical Division, BBMB, Talwara</p> <p>9988427291 (M)</p>	<p>1) He should keep ready with him contact numbers of all persons skilled / unskilled working under his administration.</p> <p>2) Record / strength of skilled workers of different categories whose services are</p>

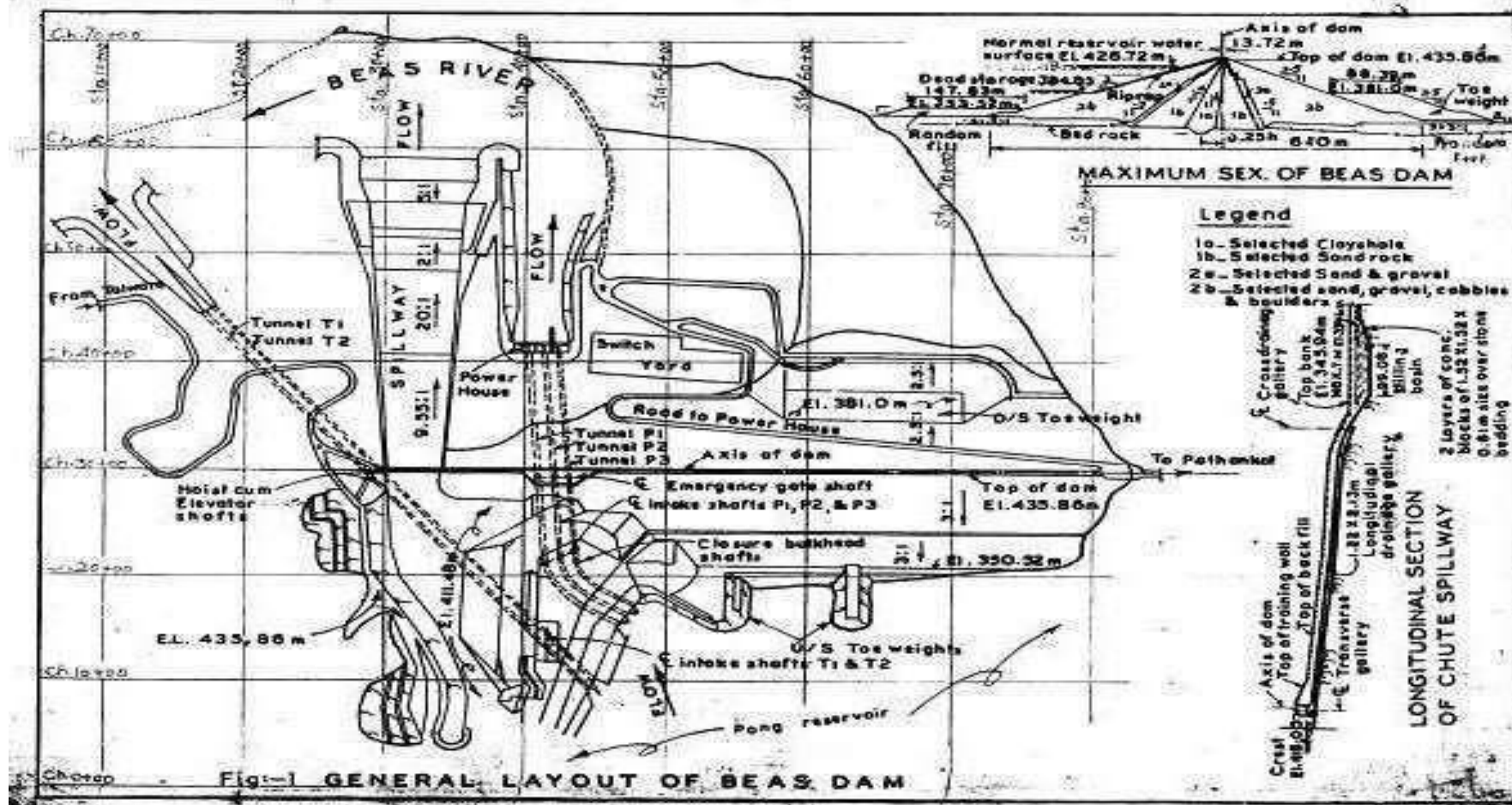
	<p>Required during emergency operation should also be available.</p> <p>3) He should also keep a list of readily available all types of stores under his control alongwith available quantity of each item. He should also apprise S.E. Talwara Circle about the same from time to time.</p> <p>4) He should also keep a list of alternative arrangement in the absence of skilled workers readily available.</p> <p>5) He will ensure delivery of all materials / Stores quickly for its use at emergency site.</p> <p>6) He will make arrangement at shortest notice for the materials from other projects if required.</p> <p>7) He will also discharge his duties as team leader for rescue & relief arrangement at Talwara in colony area.</p>
<p>9.14 XEN Mech. Division, BBMB, Talwara (Procurement Cell)</p> <p>01883-236006(O)</p> <p>9988427291 (M)</p>	<p>1) To notify / inform different agencies / offices as per notification flow chart of particular alert level as per situation at site.</p> <p>2) XEN should readily available with him contact members of skilled / unskilled working under his control.</p> <p>3) Record / strength of skilled workers of different categories whose services are required during emergency operation should also be available.</p> <p>4) He will ensure all vehicles, heavy earth moving machinery and other equipments / mechanical installations in complete</p>

	<p>working order.</p> <p>5) XEN should also keep a list of alternative arrangement in the absence of skilled workers, readily available.</p> <p>6) XEN should also keep a list of machinery in working under his control readily available.</p> <p>7) Mode of conveyance & shortest possible route to the emergency site should be identified well in advance on consultation with XEN Pong Dam Division.</p> <p>8) He will ensure that daily diary is maintained in respect of each activity carried out at site by persons under his control & to apprise S.E. Talwara Circle.</p> <p>9) XEN will ensure the stock piling of lubricants & spare parts at site where the machinery has already been kept permanently.</p> <p>10) XEN should have with him a list of machinery (required with him) available at other projects under BBMB, alongwith operators. Annexures-XXI & XXII.</p> <p>11) XEN should have a list of suitable / required machinery available with other departments such as XEN, Shah Nahar, XEN, Mukerian Hydel Channel.</p> <p>12) XEN will ensure the persons who have been assigned duties during emergency hours are discharging it properly & promptly.</p> <p>13) He will also discharge his duties as team leader for rescue operation at Pong</p>
--	--

	<p>Dam.</p> <p>14) XEN should keep close liaison with XEN, Pong Dam who is overall incharge of the site for all types of assignments / requirements in relation to execution of work.</p> <p>15) XEN shall also ensure attendance 24 hours during such exigency.</p> <p>16) He will also perform his duties as per para 2.1.1 in case of sabotage / terrorist attack (For Rescue and Relief)</p> <p>17) He will also ensure immediately alternative power supply arrangement of existing system of supply fails due to some reason.</p>
<p>9.15 PMO BBMB, Hospital Talwara 01883-236060(O) 9417286069 (M)</p>	<p>1) He/She will immediately move to the emergency site for assisting in rescue & relief operation after getting information about such eventuality.</p> <p>2) He/She will move to the site with a team of doctors and other allied staff well equipped to give first aid to injured persons.</p> <p>3) He/She will keep a constant liaison with CMO Mukerian Hopital, Dasuya, Hoshiarpur and Bholkalota community health Centre, if some persons are required to be shifted there for immediate medical services / treatment.</p> <p>4) He/She will ensure every part of aid to persons which is available in any of nearby hospital / dispensary.</p> <p>5) He/She will try to make all arrangement in shortest possible time by opening</p>

	<p>Temporary dispensary at site with the help of XEN Township so that immediate medical aid be given to victims at site of emergency.</p> <p>6) He/She will immediately make all arrangements to refer patients to reputed hospital at Jalandhar, Ludhiana or PGI, Chandigarh if situation warrants so.</p> <p>7) He/She will keep record with him of every person who has been given medical aid by BBMB temporary dispensary at site.</p> <p>8) He/She will also inform C.E. Beas Dam, regarding his activities during such hours of exigency.</p> <p>9) He/She will arrange to provide 24 hours medical service through his staff at site of emergency.</p> <p>10) He/She will keep constant liaison with S.E. (HQ) and keep on apprising him about the situation at site in respect of rescue & relief operations, victims or any fatality.</p> <p>11) He/she will ensure a complete availability of every type of medicine in advance, doctors and other staff for extending help during the hours of emergency (especially medicines for Gastroenteritis and other water born diseases.</p>
<p>9.16 Project Security Officer BBMB, Talwara 01883-236463 (O) 9872811103 (M)</p>	<p>1) He will arrange to inform / notify bomb squad / sniffer dog agencies as per list attached at Annexure-VIII in case of sabotage / terrorist attack will remain in constant touch with them for seeking any help required during such emergency hours.</p>

	<p>2) He will arrange to guide all the persons at work site to deal with such situation (Bomb like thing) through his team associates under his control)</p> <p>3) He will ask for any help required during such emergency from S.E. (PDC) / BBMB authorities.</p> <p>4) He will ensure persons under his control are competent to control/tackle such a situation.</p> <p>5) He will ensure that incident has been record in the event report form as per Annexure-XV.</p> <p>6) He will immediately inform Director, Security, S.E. (PDC) and all concerned as per Annexure-IV.</p> <p>7) He will immediately inform C.E., Beas Dam during any un towards incident of terrorist attack at Pong Dam or in near vicinity.</p> <p>8) He will also request S.E. (PDC) for immediate help to handle the situation during such crucial hour.</p>
--	--



Basic Data and Salient Features of Pong Dam

Basic data

Type of Project	Multipurpose Project for Irrigation and Power.
Location	Pong- Himachal Pradesh
Year of Start of Construction	1963
Year of completion of dam	1974
Commissioning of 1 st unit of Pong Power Plant	January 1978
Commissioning of last unit (6 th) of Pong Power Plant	October 1983

Hydrology and Climatology.

River on which located	Beas
Sub Basin	Beas
Main river basin	Indus
Catchment area upstream of Dam site	12560 Km ² (4850 sq. miles)
Catchment area under Permanent Snow	780 Km ² (300 sq. miles)
Average annual rainfall in the Catchment area	180 cm (71in)
Maximum observed air temp. at Dam Site	48.8 ⁰ C (118 ⁰ F)
Minimum observed air temp at dam site	0 ⁰ C (32 ⁰ F)
Maximum annual run off	23050x10 ⁶ m ³ (18.69x10 ⁶ acre ft.)
Minimum annual run off	8760x10 ⁶ m ³ (7.10 x 10 ⁶ acre ft.)
Average annual run off	15300 x 10 ⁶ m (12.40 x10 ⁶ acre ft.)
Maximum observed flood (14 th August 2023)	20784.56 m ³ /s (734000 ft ³ . /s)
Design flood discharge	33555 m ³ /s (1185000 ft ³ /s)
Frequency of design flood	1 in over 10 000 years

Reservoir

Maximum Reservoir level	EL. 433. 12 m (1421 ft.)
Full reservoir level	EL. 426.72m (1400 ft.)
Dead storage level	EL. 384.05m (1260 ft.)
Gross storage Capacity	8570x10 ⁶ m ³ (6.95x10 ⁶ acre ft.)
Live storage Capacity	7290x10 ⁶ m ³ (6.95x10 ⁶ acre ft.)
Dead storage Capacity	1280x10 ⁶ m ³ (1.04x 10 ⁶ acre ft.)
Maximum reservoir depth	97.84 m (321 ft.)
Reservoir length	41.8 Km (26 miles)
Reservoir surface area at Full reservoir level	260 Km ² (100 ² sq.miles)

Dam

Type of dam	Earth core –cum-gravel shell dam
Elevation of top of dam	EL. 435.86 m (1430 ft.)
Free board (above Maximum Reservoir level)	2.74 m (9 ft.)
Maximum height of dam above Deepest foundation level	132.59 m (435 ft.)
Maximum height of dam above Deepest River bed	100.58m (330 ft.)
Crest length	1950.7m (6400 ft.) approx...
Crest width	13.72 m (45 ft.)
Dam slopes	Upstream 3.0 H: I V Downstream 2.5 H: I V
Maximum width at base (Excluding toe- weights)	610m (2000 ft.)
Factor of safety against sliding (Minimum)	
(a) Non –seismic condition	1.5
(b) Seismic condition	1.1

River Diversion Works

Number of tunnels	5
Finished dia. of each tunnel	9.14m (30 ft.)
Length of tunnel T-1	1363.37m (4473 ft.)
T-2	1338.38m (4391 ft.)
P-1	808.02m (2651 ft.)
P-2	772.67m (2535 ft.)
P-3	734.26m (2409 ft.)
Total aggregate length	5016.70m (16459 ft.)
Minimum thickness of RCC lining	76.2cm (2ft 6 in)
Maximum discharge through each Tunnel during diversion	
(a) T-1 & T-2	252.6 cumecs (8925 cusecs)
(b) P-1, P-2 & P-3	215.2 cumecs (7600 cusecs)
Maximum water velocity through Each tunnel	
a) T-1 & T-2	19.2 m/s (63 ft. /s)
b) P-1, P-2 & P-3	20.4 m/s (67ft./ s)

Outlet Works

Number of outlet tunnel	2
Number of outlets	4
Type of gates for regulation and for emergency closure	Slide gates
Size of each gate	2.13m wide x3.20m high (7.0 ft. wide x 10.5 ft. high)
Operating mechanism of gates	Hydraulic hoists
Capacity of gate hoist	625 tonne
Maximum net head	95.71m (314 ft.)
Minimum net head	46.7 m (153.3 ft.)
Maximum discharge through each outlet	253m ³ /s (8925 ft ³ /s)
Minimum discharge through each outlet	183m ³ /s (6450 ft ³ /s)
Type of intake	Drop-inlet type
Maximum velocity in intake	13.7 m /s (45 ft/s)
Maximum velocity through the Trashracks	2.1 m/s (7 ft. /s)

Spillway

Type of spillway	Overflow gated chute spillway
Number of bays	Six each of 14.48m (47.5ft) Width
Maximum outflow through spillway	12375 m ³ /s (437000 ft ³ /s)
Overall width at the crest	102.11 m (335 ft.)
Clear water way at the crest	86.87 m (285 ft.)
Crest elevation	EL. 416.05m (1365ft)
Coefficient of discharges at crest (Cd)	3.66
Discharges intensity at the crest	143m ³ /s per metre (1540ft. ³ /s per foot)
Spillway gates	Six radial gates each of size 14.478 x12.344m (47.5x40.5 ft.)
Type of gate hoist	Mechanical
Capacity of gate hoist	150 tonne
Hoisting speed of the gates	0.46 m/mint (1.5 ft/min) with electric Motor 0.15 m/min (0.5 ft. /min) with diesel Engine
Length of spillway chute	655.62 m (2151 ft)
Length of stilling basin	99.06 m (325 ft)
Maximum height of training walls	25.30 m (83 ft.)
Type of energy dissipater	Stilling basin with chute blocks and dentate sill
Velocity of water at the entrance Of approach channel	1.83 m/s (5ft /s)
Maximum velocity of water in the approach channel	6.10 m/s (20 ft/s)
Maximum velocity of water in the chute	14.63 m/s (48 ft/s) at the start to 44.2 m/s (145 ft/s) at the end of the chute
Discharge intensity in stilling basin foot) Spillway bridge width	58m ³ /s per meter (625ft ³ /s per 7.32m (24ft) wide with 0.91m (3ft) Wide walkway on either side

Penstock Works

Number of penstock headers	3
Number of penstock branches	6
Maximum discharge through each Penstock header	215 m ³ /s (7600 ft ³ /s) approx...

(v-vi)

Diameter of each penstock header	7.28 m (23.885 ft.)
Diameter of each penstock branch	5.025 m (16.486 ft.)
Type of penstock	Steel liner (embedded)
Velocity through the trash rack	Drop-inlet type
Emergency gates	0.91 m/s (3 ft. /s)

Power Plant

a) Power House Building Type	Reinforced cement concrete
Number of units in first stage	framed structure
Number of units in second stage	4
Spacing Centre line of units	2
Width of service bay &	18.288-m (60-ft.)
service bay extension	18.288-m (60-ft.) wide
	service bay with 7.4m
	(24.27 ft.) wide service bay
	extension
Width of generator hall	22.76m (74 ft. 8 in)
Overall height of the building	43.48 m (142 ft. 8 in)
b) Turbines	
Type	Vertical shaft, Francis type
Rated output	86200 mhp
Speed	166.7 rpm
Rated head	65.5m (215 ft.)
Maximum net head	95.10m (312ft.)
Minimum net head	95.10m (312ft.)
Distributor level	47.85m (157 ft.)
Minimum tail water level	El.331.62 m (1088 ft.)
Maximum tail water level	El.330.71m (1085 ft.)
Installed capacity of each unit	66 MW
Number of butters fty valves	6 (one for each unit)
Number of pressure relief valves	6 (one for each unit) c)
c) Generators	
Type	Umbrella type
Rated capacity	66.667 MVA
Speed	166.7 rpm
Power factor	0.9
Generated voltage	11 KV
Number of phases	3
d) Switchyard	220 KV

Benefits

a)	Irrigation	
	Annual Irrigation	1.6×10^6 hectares (4×10^6 acres)
	Annual increase in food grains	2×10^6 tonne
	Cost of annual procedure	
b)	Power	
	Installed capacity 1 st stage	$4 \times 60 = 360$ MW
	Firm power 1 st stage	72 MW @ 100% load Factor
	Secondary	34 MW
	Total installed capacity including	
	Extension project	$6 \times 60 = 360$ MW
	Installed capacity after R.M.U.	$6 \times 66 = 396$ MW

Quantities of Material used

Excavation including aggregate recovery	$30 \times 10^6 \text{ m}^3$ ($39 \times 10^6 \text{ yd}^3$)
Concrete	$1.13 \times 10^6 \text{ m}^3$ ($1.48 \times 10^6 \text{ yd}^3$)
Fill Material	$35 \times 10^6 \text{ m}^3$ ($45.8 \times 10^6 \text{ yd}^3$)
Steel (including construction plant works)	111760 tonne (110 000 Tone)

Annexure –III (i-iv)

ALERT LEVEL FOR EMERGENCY CONDITIONS (BEAS DAM) UNIT-II

Type of Alert	Alert level	Situation	Engineer in charge action	Response system
Internal Alert	Blue	<p>No immediate detection of anomalies in the dam or other events that do not compromise the structural dam safety and do not make unviable the dam observation system. Situation is stable or developing very slowly. No consequences are expected in the valley d/s of the dam.</p> <ol style="list-style-type: none"> 1. RWL is ± 1380 ft and inflows are 75000 cusecs on 31st August. 2. Small depression or boil noticed in slope of dam when RWL is ± 1350 ft. 3. High formation of vortices observed inside intake structure floating grid stuck up in the intake structure when RWL is rising 4. Leakage observed in 8 dia. Pipe in emergency gate shaft & water getting accumulated in emergency shaft. 5. A small earthquake observed by GSR-18 and seepage discharged in abutment tunnels increased marginally. 6. Slide observed in right abutment resulting in falling of rock mass into in reservoir. 7. Damage to grid structure of the intake due to impact by floating equipment when RWL, is ± 1295 rising and structure requiring immediate repair/ maintenance. 8. Huge sliding tendency of rock mass observed by slope indicator No. 1 in intake area EL ± 1230 putting stability of access bridge in danger. 	<ol style="list-style-type: none"> 1. Measure to solve problem 2. Give internal alert signal of blue level 3. Make notification in chart No.1 4. Inform to <ol style="list-style-type: none"> i) Dam owner of C.E. Pong Dam ii) Member irrigation 	Direct command system

ALERT LEVEL FOR EMERGENCY CONDITIONS (BEAS DAM) UNIT-II

Type of Alert	Alert level	Situation	Engineer in charge action	Responsesystem
Internal Alert	Yellow	<p>Existence of anomalies of events that might compromise up to some degree and assuming that eventual small consequences downstream can happen.</p> <ul style="list-style-type: none"> • Reservoir level reaching ± 13801ft by 15th August Inflows are of the order of 100,000 cusecs. • Earthquake of $\pm 0.06g$ observed by GSR-18 at top of Dam when RWL is 1360 ft. and seepage increased in galleries within dam body. • Horizontal movement devices have shown small d/s movement of dam in deepest section and seepage discharge in galleries increased when RWL ± 1360ft • Bonnet Cover of emergency gate shaft failed resulting in quashing of water in the shaft rising up to corresponding RWL settlement • Observed by vertical movement devices in the deepest section requiring immediate repair • Side observed in intake area above spillway approach channel • when RWL + 1355 ft. rising • Perceptible deformation of reservoir bed observed through BenchMarks along the periphery of the reservoir fixed on broadest part of the reservoir when RWL is +1390 ft. • Lot of seepage observed from seepage points located at the toe of dam when RWL is + 1400 ft. endangering the stability of the dam as more flood is likely to impinge the reservoir 	<ol style="list-style-type: none"> 1. Measure to solve problem 2. Give internal alert signal of Yellow level 3. Make notification in 4. chart No.2 5. Inform to <p>* S.E. Pong Dam Circle * C.E. Pong Dam * Member (Irr) * Chairman, BBMB</p>	Direct command system

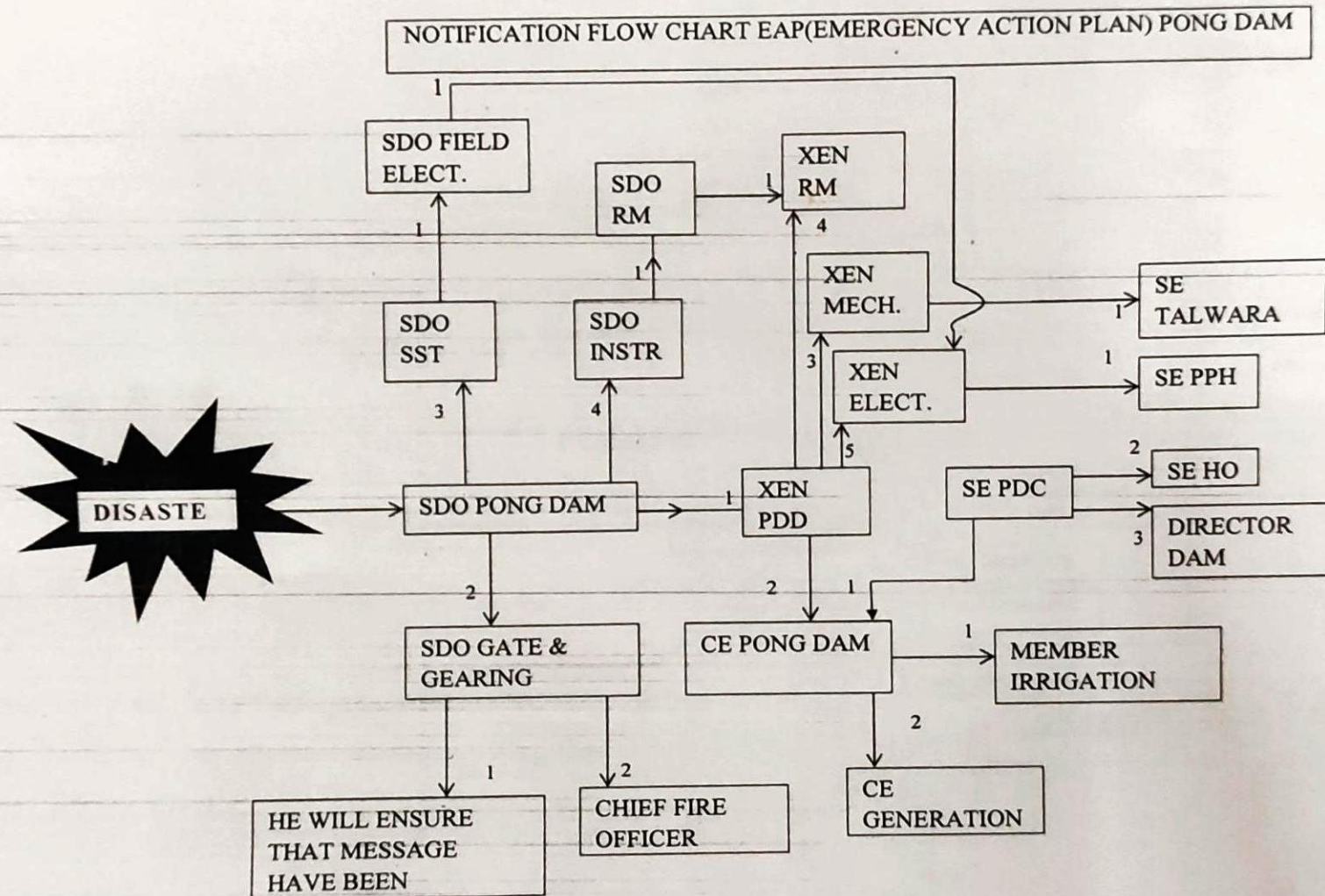
ALERT LEVEL FOR EMERGENCY CONDITIONS (BEAS DAM) UNIT-II

Type of Alert	Alert level	Situation Situation with high Probability of dam feature. It may not be Possible to control the situation and might cause serious consequences d/s of the dam	Engineer in charge action	Response system
External Alert	Orange	<ul style="list-style-type: none"> RWL reaching + 1390 by 20th August inflows of the Order of lacs cusecs are coming Out flows are 200000 cusecs heavy flood likely to impinge to reservoir as Per IMD forecasting Huge land side observed in the right abutment when RWL is ± 1400 and inflow is 150000 resulting in falling of rock into reservoir and endangering the safety of dam. Lot of damage in a huge stretch observed to u/s pitching of pong dam due to high speed wind when RWL is ± 1400 and water is continuously rising due to flood in the intake area. Failure of u/s slope pitching due to flood impinging the reservoir in anticipation of high flood impinging the reservoir as per IMD forecasting when RWL ± 1410 ft. Earthquake observed by GSR -18 as 0.09 g when RWL is ± 1400 and seepage suddenly increased in different galleries of the dam. Heavy leakage observed through power house machines which is Increasing rapidly may result in flooding of the power house building * Emergency arising due to huge file in cable gallery getting out of Control One of the spillway is in operation when RWL is ± 1400 and inflows are of the order of 200000 cs heavy flood expected as per IMO report Sabotage /Bomb threat /terrorist activities and situation developing serious. 	<ol style="list-style-type: none"> Measure to solve problem Give internal alert signal of yellow level Make notification in chart No.2 Inform to <ul style="list-style-type: none"> * S.E. P.D. C. * C.E. Pong Dam * Member (Irr) * Chair man, BBMB <p>District Magistrate Warning Population d/s dam to be ready for evacuative.</p>	Incident command system

ALERT LEVEL FOR EMERGENCY CONDITIONS (BEAS DAM) UNIT-II

Type of Alert	Alert level	Situation Situation of inevitable catastrophe, imminent failure of dam.	Engineer in charge action	Response system
External Alert	Red	<ul style="list-style-type: none"> RWL is 1410 by 31st August. Inflows are of the order of 300000 cusecs and outflows are corresponding to full spillway gates opening (6 Nos.) Plus flow through machines. Heavy flood likely to impinge the reservoir as per IMD Reports. Could burst shooting RWL 1415 and flows in reservoir are 250000 Cusecs More Flood expected overtopping imminent. One of the spillway gates is inoperative when RWL is 1408 ft. and inflow is 300000 cusecs Continuous rain in the catchment. More Flood expected Horizontal movement devices have shown perceptible d/s movement of dam in the deepest section. RWL at 1410 ft Seepage discharge in galleries in the dam body increased Substantially. Earthquake Observed by GSR- 18 is 0. 10g. RWL is 1410 ft. Horizontal movement device has shown value more than permissible limit increased seepage observed. Also wide cracks in galleries observed. RWL is at 1405 ft. inflows are 25000 Cusecs. All Flood gates are open but some of the Shah Nehar Barrage gates are not operative. Heavy flood expected overtopping of barrage imminent Heavy land slide wave occurred in the right abutment when RWL is 1410 ft. Causing severe wave action and turbulence and level approaching 1420 ft. Potential emergency situation Developed Due to sabotage/terrorist attack resulting in substantial flooding of the dam galleries along with cracks. 	<ol style="list-style-type: none"> Measure to solve problem Give internal alert signal of yellow level Make notification in chart No.2 Inform to <ul style="list-style-type: none"> * S.E. Pong Dam Circle * C.E. Pong Dam * Member (Irr) * Chairman, BBMB Distt. Magistrate Warning Population d/s dam stuckly to evacuate. Indian Army. Navy & Air Force.	Incident command system

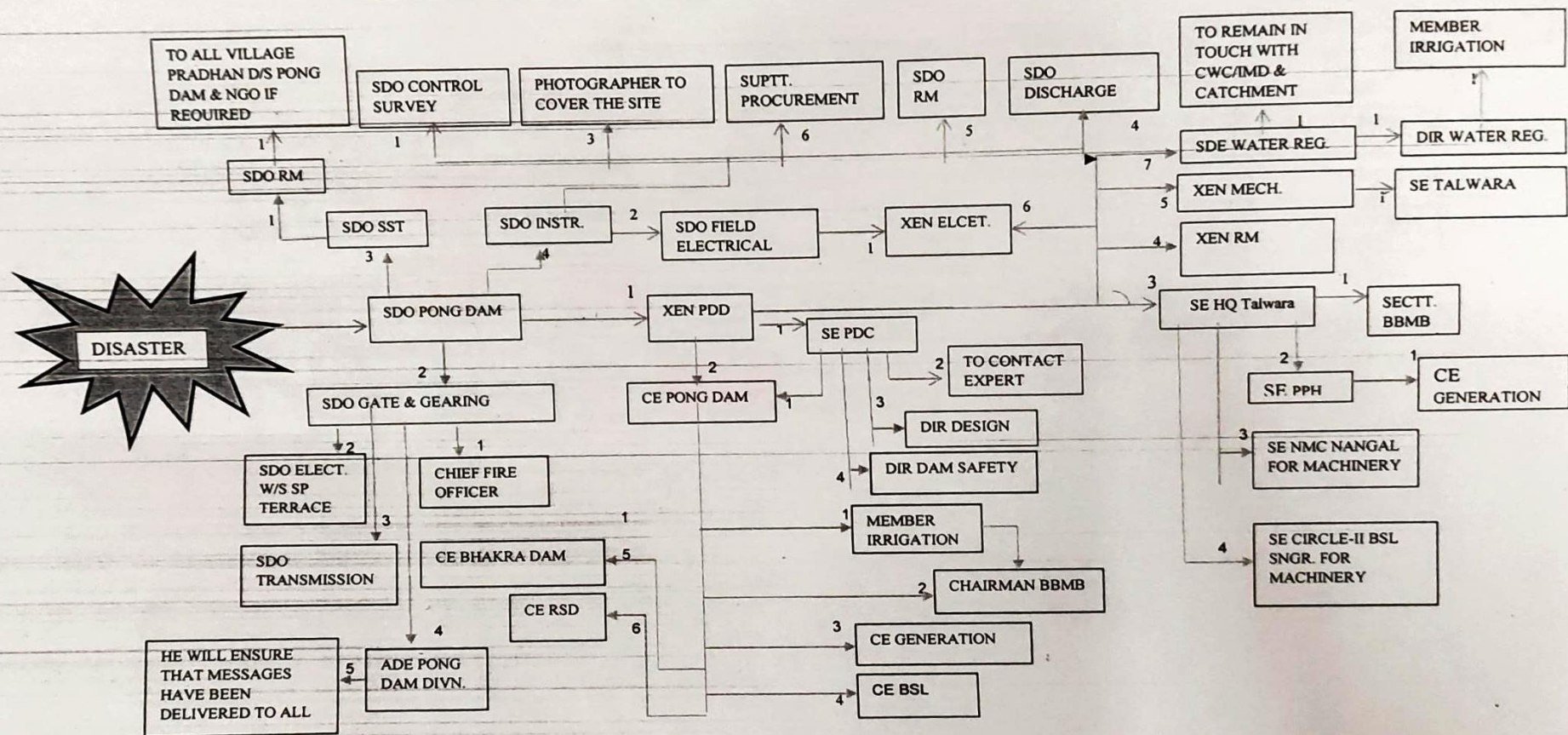
INTERNAL ALERT (BLUE)

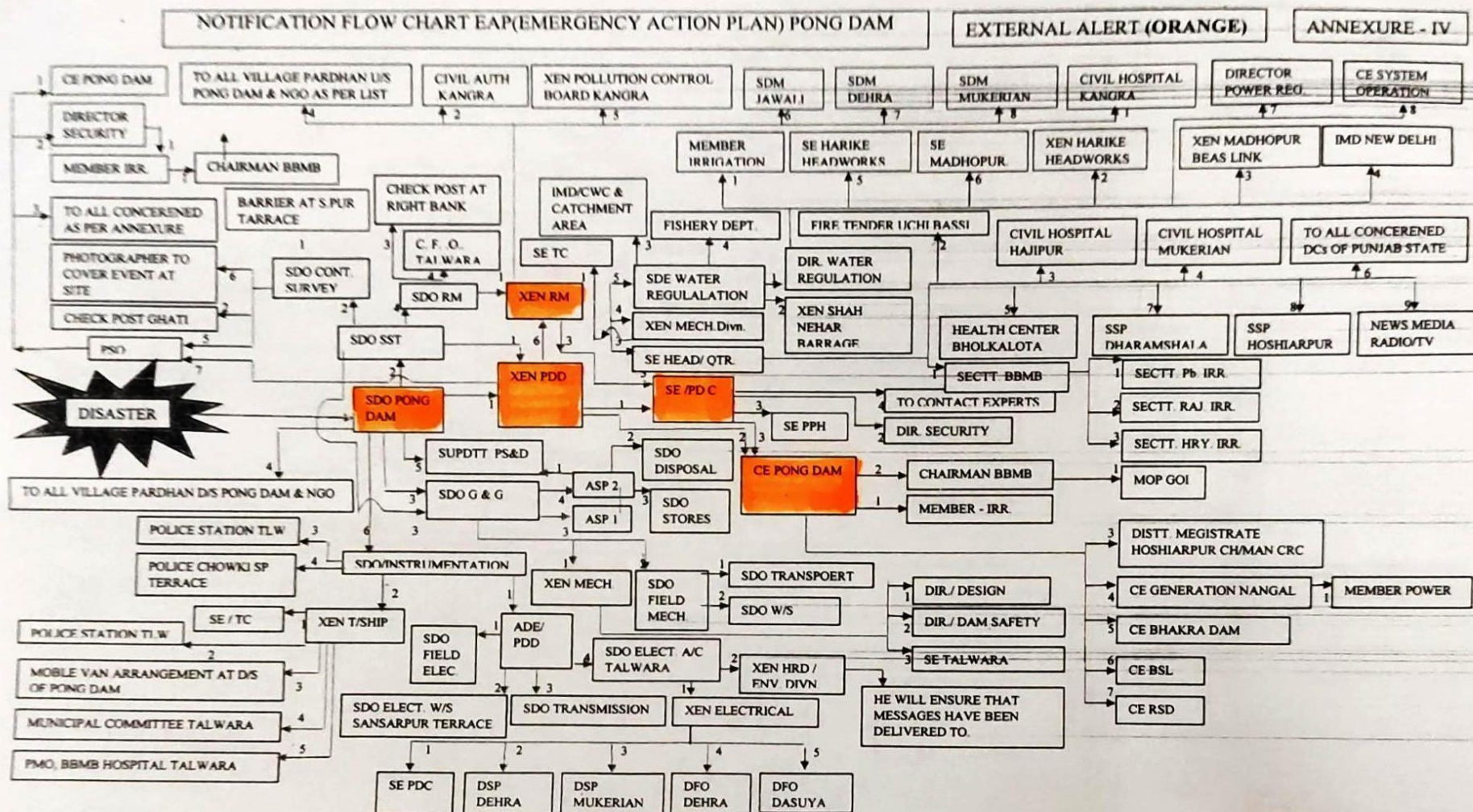


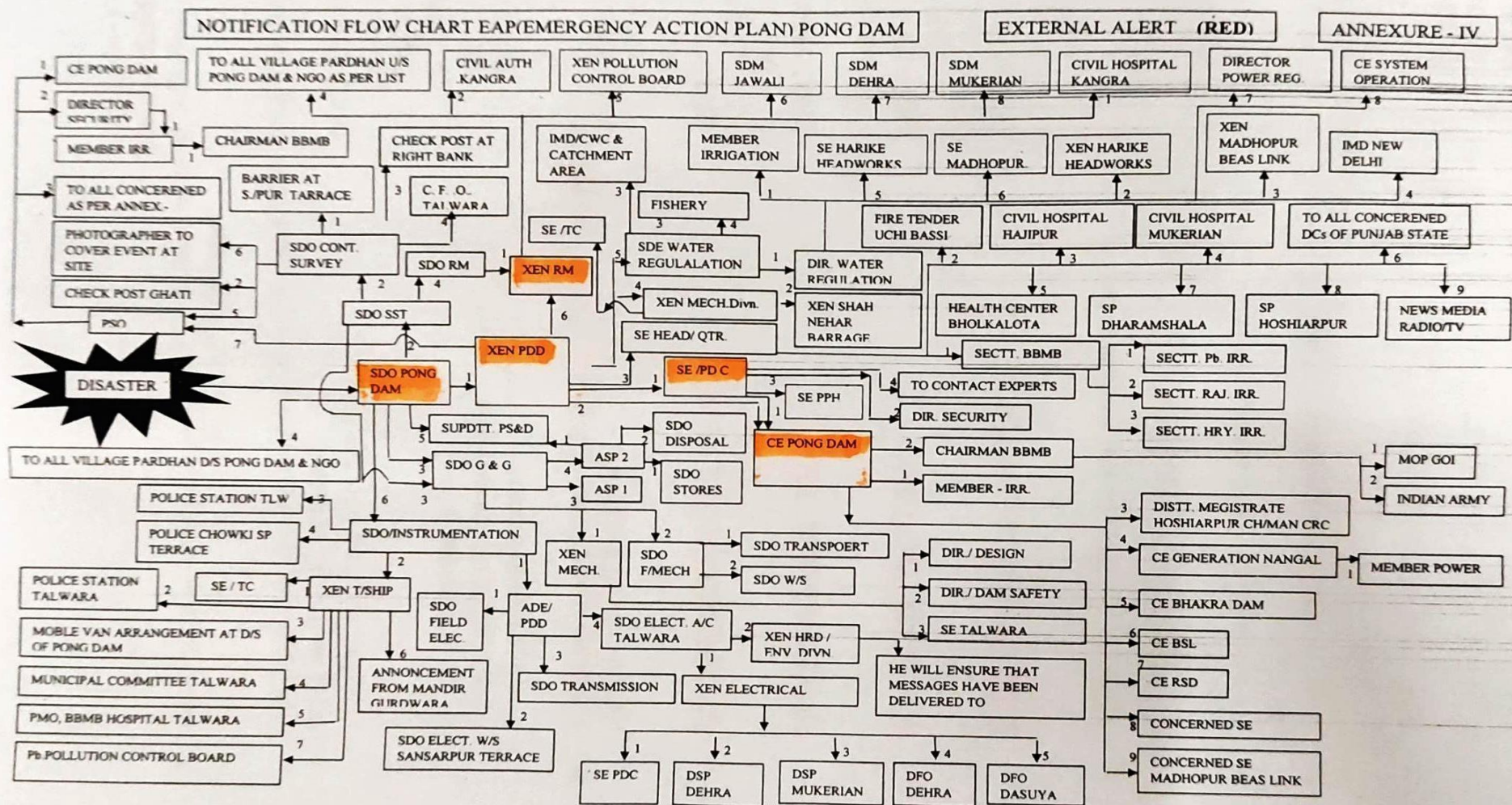
INTERNAL ALERT (YELLOW)

ANNEXURE - IV

NOTIFICATION FLOW CHART EAP(EMERGENCY ACTION PLAN) PONG DAM







Internal Alert Blue Narrative information listing persons to be notified by each individual as per N.F.C. of Pong Dam.

- 1. After knowing about the occurrence of disaster SDO Pong Dam will make Four calls as below:**

1 st call to Xen Pong Dam Division	01883-236061(O) 8968176839
2 nd call to SDO G&G	8360654749
3 rd call to SDO Spillway Shaft & Tunnels	9501114327
4 th call to Instrumentation	7888513102

- 2. Xen Pong Dam Division will make Five No. Calls as below:**

1st call to SE PDC Talwara	01883- 236125 (O) 8264925934
2 nd Call C.E. Beas Dam Talwara	01883-237131(O) 9352714841
3 rd call to Xen Mech.	01883-236006 (O) 9988427291
4 th call to Xen R.M. Divn.	01883- 236192(O) 8968176839
5 th call to Xen Electrical Division	01883-236056 (O) 9417206939

- 3. SDO G & G will make two No. calls as below:**

1st call CFO	01883-236021 (O) 8591822997
2 nd call to be ensure that Message has been delivered to all as per notification flow chart	

- 4. SDO SST will make single call to SDO Field Elec.**

	01883237144 9729724767
--	---------------------------

- 5. SDO Field Electrical. Will make a single call to Xen Elec.**

	01883-236056 (O) 9417206939
--	--------------------------------

6. Xen Mech. will make single call to **S.E. Talwara Circle** 01887- 236013 (O)
9888760691(M)
7. Xen RM Will make a single call to **SE (PDC)** 01883- 236125 (O)
8264925934
8. SDO Instrumentation will make a single call to **SDO RM** 9803414449
9. SDO RM will make a single call to **Xen RM** 01883- 236192(O)
8968176839
10. **S.E. Pong Dam Circle will make three calls as below:**
 - 1st call to C. E. Beas Dam 01883-237131 (O)
9352714841
 - 2nd call to S.E. (HQ) 01883-236047 (O)
9530903084
 - 3rd call to Director Dam Safety Nangal 01887-223179 (O)
11. **Xen Electrical will make two calls as below:**
 - 1st call to SE (PDC) 01883-236125(O)
9417169367
 - 2nd call to S.E. Pong Power House 01883-236171 (O)
9417201138
12. **C.E. Beas Dam will make two calls as below:**
 - 1st call to Member/Irrigation, BBMB 0172-223355 (O)
 - 2nd call to C.E. Generation Nangal 01887-223355(O)
-
13. **S.E. Pong Power House Will make a single call to C.E. Generation, Nangal** 01887 -223355(O)

Annexure-V(i-iii)
Internal Alert Yellow

**Narrative information listing persons to be notified by each individual
as per N.F.C. of Pong Dam.**

**1. After knowing about the occurrence of disaster SDO Pong Dam will
make Four**

calls as below:

1st call to Xen Pong Dam Division 01883-236061 (O)
8968176839

2nd call to SDO Gates & Gearing 8360654749 (M)

3rd call to SDO SST 9501114327

4th call to SDO Instrumentation 7888513102

2. SDO Gates & Gearing will make four No. calls as below:

1st call to CFO 8591822997

2nd call to SDO Elect. Workshop S.P. Terrace 01883-236005 (O)

3rd call to Transmission 01883-236005 (O)

4th call to SDO Pong Dam Division 7888513102

**SDO Pong Dam Division will ensure that messages have been
Delivered to each individual as per NFC**

4. Xen Pong Dam Division will make Seven Nos. calls as below:

1st call to SE PDC Talwara 01883-236125 (O)
8264925934

2nd call to C.E. Beas Dam 01883-237131 (O)
9352714841

3rd call to S.E. / HQ Talwara 01883-236047 (O)
9530903084

4th call to Xen RM Division Talwara 8968176839

- | | |
|--|--------------------------------|
| 5 th call to Xen Mech. Division Talwara | 01883-236006 (O)
9988427291 |
| 6 th call to Xen Elect. Division Talwara | 01883-236056 (O)
9417206939 |
| 7 th call to SDE Water Regulation Talwara | 01883-236008 (O)
9417201136 |
5. **SDE Water Regulation Talwara will make two calls as below:**

1 st call to Director Water Regulation, Nangal	01887-223751 (O)
2 nd to remain in touch with CEC/IMC & catchment area of the Dam	
 6. **Director Water Regulation will make a single** 0172-5011752-53
Call to Member Irrigation, BBMB, Chandigarh. 9417022944(M)
SDO SST will make a single call to SDO RM Talwara. 9803414449
 7. **SDO RM Talwara will make a call to all village Pardhans D/S Pong Dam and NGOs if required**
 8. **SDO Instrumentation will make 5 no. call as below:**

1 st call to SDO Control Survey Pong Dam	9501114327
2 nd call to SDO Field Electrical	9729724767
3 rd call to Photographer to cover the indent at site	8968810945
4 th call to SDO RM Sub Division	9803414449
5 th call to XEN Mechanical Talwara	9988427291
 9. **SDO Field Electrical will make a single call to Xen Electrical.** 9417206339 (M)
 10. **C.E Beas Dam will make six No. calls as below:**

1 st call to Member/Irrigation, BBMB, Chandigarh	0172-5011752
2 nd call to Chairman BBMB, Chandigarh	0172-5011750
3 rd call to C.E. Generation Nangal	01887-223355 (O)
4 th call to C.E. Sundernagar	01907-262333 (O)

5 th call to C.E. Bh. Dam, Nangal	01887-223001 (O)
6 th call to C.E. Ranjit Sagar Dam	01870-263244 (O)
11. Member/Irrigation will make a single call to Chairman BBMB, Chandigarh	0172-5011750-51
12. S.E. Pong Dam Circle will make four calls as below:	
1 st call to C.E. Beas Dam Talwara	01883-237131 (O)
	9352714841(M)
2 nd call to contact experts	Annexure-XVII
3 rd call to Director/Designs, Nangal	01887-223108(O)
4 th call to Director/Dam Safety, Nangal	01887-223179(O)
13. Xen RM will make a single call to o/o SE PDC Talwara	8264925934(M)
14. S.E.(HQ) will make four No. call as below:	
1 st call to Secretary, BBMB, Chandigarh	0172-2548572(O)
2 nd call to S.E. Pong Power House	9417201138(M)
3 rd call to S.E. Nangal Mech. Circle, Nangal	01887-223004(O)
4 th call to S.E. BSL Circle No. II Sundernagar	01907-262354(O)
15. Xen Mech. Talwara will make a single call to S.E. Talwara Circle, Talwara	9888760691(O)
16. S.E. Pong Power House will make a Single call to C.E. Generation, Nangal	01887-223355(O)

Annexure-V (i-v)
External Alert Orange

Narrative information listing persons to be notified by each individual as per N.F.C. of Pong Dam.

1. After knowing about the occurrence of disaster SDO Pong Dam will make Six Number calls as Below:

Ist call to Xen Pong Dam Division	9815516839(M)
2 nd call to SDO SST.	01883-237535(O)

3 rd call to SDO G & G	8360654749
4 th call to All Villages Pardhan D/S Pong Dam & NGOs as per list.	
5 th call to XEN Mechanical	9988427291

6 th call to SDO Instrumentation	7888513102
---	------------

2. Xen Pong Dam Division will make Six calls as below:

Ist call to SE PDC Talwara (Ist to PSO in case of terrorist attack of sabotage)	9872811103 (M)
---	----------------

2nd Call C.E. Beas Dam Talwara

3 rd call to SE (HQ) Talwara	9352714841 01883-236047 (O)
---	--------------------------------

4 th call to Xen Mech. Divn. Talwara	9530903084 9988427291 (M)
---	------------------------------

5 th call to SDE Water Regulation Talwara	9417201136(M)
--	---------------

6 th call to Xen RM Talwara	8968176839(M)
--	---------------

7 th call to PSO	9872811103
-----------------------------	------------

3. SDO SST will make four calls as under:

- | | |
|---|-----------------|
| Ist call to Xen Pong Dam Division | 8968176839 (O) |
| 2 nd call to SDO Control Survey Talwara | 9501114327 |
| 3 rd call to SDO G&G Talwara | 8360654749 |
| 4 th call to SDO RM Talwara | 8968176839 |
| 4. SDO Control Survey will make six calls as below: | |
| 1 st call to Barrier at Sansarpur Tarrace (to PSO in case of terrorist attack or sabotage) | 01970-233110 |
| 2 nd call to check post at Ghati | 01883-237080 |
| 3 rd call to check post at right bank | 01883-237144 |
| 4 th call to CFO Talwara | 8591822997(M) |
| 5 th call to PSO Talwara | 9872811103 (M) |
| 6 th call to Photographer to cover the incident | 8968810945 (M) |
| 5. DO RM will make a single call to Xen RM: | 8968176839 (O) |
| 6. Xen RM will make eight calls as under: | |
| 1 st call to Civil Hospital Kangra | 01892-265054 |
| 2 nd call Civil Authority Kangra | 01892-222103(O) |
| 3 rd call SE PDC Talwara | 8264925934(O) |
| 4 th call to village Pradhan u/s&d/s Pong Dam and NGOs as per list attached | |
| 5 th call Xen Pollution Control Board Kangra | 01892-2673020 |
| 6 th call SDM Jawali | 01893-264310 |
| 7 th call to SDM Dehra | 01970-233102 |
| 8 th call to SDM Mukerian | 01883-244441(O) |
| 7. SDO G& G will make three calls as below | |
| 1 st call to Xen Mech Divn. Talwara | 9988427291 (M) |
| 2 nd call to SDO Field Mech. | 9417469567 (M) |
| 3 rd call to ASP-I Talwara | 7009906921 (M) |

8. SDO Instrumentation will make three calls as below:

1st call to Xen Township Talwara 9815954877 (M)

2nd call to Police Station Dehra 01970-233102

3rd call to Police Chowki Sansarpur Terrace 01970-256421

9. Xen Township Division, Talwara will make six No. calls as below:

1st call to S.E. Talwara Circle 9888760691(M)

2nd call to Police Station Talwara 01883-236127(O)

3rd call Mobile Van announcement D/S Pong Dam

4th call to Municipal Committee Talwara (BDPO) 01883-236134

5th call to PMO BBMB Hospital Talwara 01883-236060(O)

9417286069 (M)

6th call - Announcement form nearly Mandir /Gurdwara

10. ADE Pong Dam Divn. will Make four No. calls as below:

1st call to SDO Field Electrical 9729724767 (M)

2nd call to SDO Elect Workshop Sansarpur Terrace 01883-236005(O)

3rd call to SDO Transmission

4th call to SDO Electrical Accounts Talwara 01883-236126 (O)

9729724767

11. SDO Electrical & Accounts Talwara will make two No. calls as below:

1st call to Xen Elect Talwara 9417206939(M)

2nd call to Xen Pong Dam Division (HRD Cell) Talwara 9815516839 (M)

12. Xen Pong Dam Division (HRD Cell) Talwara will make call to ensure the messages have been delivered to each individual as per N.F.C.

13. Xen Elect. Talwara will make five No. calls as below:

1st call to S.E. Pong Dam Circle Talwara 9888760691(M)

2nd call to DSP Dehra (HP) 01970-233439

3rd call to DSP Mukerian Punjab 01883-244367

4th call to DFO Dehra (HP) 01970-233156

- 5th call to DFO Dasuya Punjab 01883-283007
- 14. ASP-II will make three No. calls as below:**
- 1st call to Superintendent PS&D Talwara 01883-236094(O)
- 2nd call to SDO Store 01883-236011
- 3rd call to SDO Disposal 01883-236011
- 15. Xen Mech. Talwara will make three No. calls as below:**
- 1st call to Director/Designs Nangal T/ship 01887-223108
- 2nd call to Director/Dam Safety Nangal T/ship 01887-223179
- 3rd call to S.E. Talwara Circle 01883-236013(O)
- 16. SDO Field Mech. will make two No. calls as below:**
- 1st call to SDO Transport 7009906921
- 2nd call to SDO Mech. Workshop 7696788996
- 17. SE Pong Dam Cricle, Talwara will make four No. calls as below**
- 1st call to C.E. Beas Dam Talwara 01883-237131(O)
9352714841
- 2nd call to Director Security Chandigarh 0172-5011762(O)
- 3rd call to S.E. Pong Power House Talwara 01883-236171(O)
- 4th call to contact expert members Annexure-XVII
- 18. C.E. Pong Dam will make seven No calls as below:**
- Ist call to Member / Irrigation, BBMB, Chandigarh 0172-5011752-53
- 2nd call to Chairman BBMB, Chandigarh 0172-5011750-51
- 3rd call to D.C. Hoshiarpur 01882-220301 - 302
- 4th call to C.E. Generation, Nangal 01887-223355(O)
- 5th call to C.E.Bh. Dam Nan gal 01887-223001(O)
- 6th call to C.E. B.S.L. Sunder Nagar 01907-262333(O)
- 7th call to C.E. Ranjit Sagar Dam 01870-263244(O)
- 19. Chairman, BBMB will make a single call as below:**
- 20. C.E./ Generation will make single call to Member Power, BBMB.**
0172-2549486(O)
- 21. S.E./ HQ will make nine calls as below:**
- 1st call to Secretary, BBMB, Chandigarh 0172-2548572(O)

- | | |
|--|-----------------|
| 2 nd call to Fire Tender Uchi Bassi | 9216968319(M) |
| 3 rd call to civil Hospital Hazipur | 01883-272252 |
| 4 th call to Civil Hospital Mukerian | 01883-244702 |
| 5 th call to Health Centre Bholkatola | 01883-232773 |
| 6 th call to all concerned DC's of the State as per | Annexure-IX |
| 7 th call to SP Dharamshala | 01892-222244 |
| 8 th call to SP Hoshiarpur | 01882-220501(O) |
| 9 th call to News Media Radio & TV as per | Annexure-XI |
- 22. Secretary, BBMB will make three No. calls as below:**
- | | |
|---|------------------|
| 1 st call to Secretary Punjab Irrigation | 0172-2740156-860 |
| 2 nd call to Secretary Rajasthan Irrigation. | 0141-2227254(O) |
| 3 rd call to Secretary Haryana Irrigation | 0172-2740118(O) |
- 23. SDE Water Regulation will make four No. Calls as below:**
- | | |
|---|---------------------------|
| 1 st call to Director Water Regulation, Nangal | 01887-223758(O) |
| 2 nd call to Xen Shah Nehar Barrage | 01883-236044 |
| 3 rd call to IMD/CWC New Delhi | 011-27662607
-26108855 |
| 4 th call to Fishery Department Kangra | 01893-201282 |
- 24. Director Water Regulation will make eight Nos. calls as below:**
- | | |
|---|-----------------|
| 1 st call to Member/ Irrigation, BBMB | 0172-5011752-53 |
| 2 nd call to Xen Harike Headwork | 01632-246210 |
| 3 rd call to Xen Madhopur Beas Link | 01870-257239 |
| 4 th call to IMD New Delhi | 011-27662607 |
| 5 th call to SE Harike Head Work | 01632-246203 |
| 6 th call to SE Madhopur Beas Link | 01870-257239 |
| 7 th call to Director Power Reg. Chandigarh | 0172-2652820(O) |
| 8 th call to C.E. System Operation, Chandigarh | 0172-2653660(O) |

- 25. PSO will make three No calls as below:**
- | | |
|--|-------------------------------|
| 1 st call to C.E. Beas Dam Talwara | 01883-237131(O)
9352714841 |
| 2 nd call to Director Security Chandigarh | 0172-5011762-63 |
| 3 rd call to all concerned | |
- 26. Director Security will make Single call to Member (Irr.)**
- | | |
|--|-----------------|
| | 0172-5011752-53 |
|--|-----------------|

Annexure-V (i-v)

External Alert Red Narrative information listing persons to be notified by each individual as per N.F.C. of Pong Dam.

1. After knowing about the occurrence of disaster SDO Pong Dam will make Six Number calls as Below:

Ist call to Xen Pong Dam Division	9815516839(M)
2 nd call to SDO SST.	9501114327(M)
3 rd call to SDO G&G	8360654749
4 th call to All Villages Pardhan D/S Pong Dam & NGOs as per list.	
5 th call to XEN Mechanical	9988427291(M)
6 th call to SDO Instrumentation	7888513102

2. Xen Pong Dam Division will make Six calls as below:

Ist call to SE PDC Talwara (Ist to PSO in case of terrorist attack of sabotage)	
2 nd Call C.E. Beas Dam Talwara	9417169367 01883-237131 (O) - 237133(R) 94172-16052
3 rd call to SE (HQ) Talwara	01883-236047 (O) 236147 (R) 9530903084
4 th call to Xen Mech. Divn. Talwara	01883-236006 (O) -236048 (R) 8264925934
5 th call to SDE Water Regulation Talwara	01883-236008(O) -236129(R) 9671275866
6 th call to Xen RM Talwara	01883-236192(O) -236040(R)

- 7th call to PSO 9671275866
01883-236059(O)
9418186810
- 3. SDO SST will make four calls as under:**
Ist call to Xen Pong Dam Division 01883-236061(O)
- 236040(R)
8264925934
2nd call to SDO Control Survey Talwara 9417012037
3rd call to SDO G&G Talwara 8360654749
4th call to SDO RM Talwara 8968176839
- 4. SDO Control Survey will make six calls as below:**
1st call to Barrier at Sansarpur Tarrace (To PSO in case of terrorist attack or sabotage) 01970-233110
2nd call to check post at Ghati 01883-237080
3rd call to check post at right bank 01883-237144Ext.430
4th call to CFO Talwara 01883-236021(O)
-236086(R)
9417500236
5th call to PSO Talwara 01883-236463(O)
-236059(R)
9418186810
9465577918
6th call to Photographer to cover the incident 01883-236192(O)
-236 040(R)
9417201136
- 5. SDO RM will make a single call to Xen RM:**
- 6. Xen RM will make eight calls as under:**
1st call to Civil Hospital Kangra 01892-265054
2nd call Civil Authority Kangra 01892-222103(O)
3rd call SE PDC Talwara 01883-236125(O)
01883-237150(R)
9417169367
4th call to village Pradhan u/s Pong Dam and NGOs as per list Annexure-XIII
5th call Xen Pollution Control Board Kangra 01892-2673020
6th call SDM Jawali 01893-2643102
7th call to SDM Dehra 01970-233102
8th call to SDM Mukerian 01883-244441(O)
-244442(R)
- 7. SDO G & G will make four calls as below**
1st call to Xen Mech Divn. 01883-236006 (O)
236048 (R)
8264925934
2nd call to SDO Field Mech. -
9417012049 (M)

3rd call to ASP-I Talwara 01883-236094 (O)

4th call to ASP-II Talwara 01883-236094 (O)

8. SDO Instrumentation will make four calls as below:

1st call to ADE Pong Dam Divn. Talwara 9478180257
2nd call to Xen Township Talwara 01883-236004 (O)
-236048 (R)
9417202086
3rd call to Police Station Dehra 01970-233102
4th call to Police Chowki Sansarpur Terrace 01970-256421

9. Xen Township Division, Talwara will make seven No. calls as below:

1st call to S.E. Talwara Circle 01883-236013(O)
-237114(R)

2nd call to Police Station Talwara 01883-236127(O)
3rd call Mobile Van announcement D/S Pong Dam
4th call to Municipal Committee Talwara (BDPO) 01883-236134
5th call to PMO Canal Hospital Talwara 01883-236060(O)
-236087(R)

6th call to announcement form nearly Mandir /Gurdwara
7th call to Punjab Pollution Control Board. 0175-2215802

10. SDO-Inst./ADE Pong Dam Divn. will make four No. calls as below:

1st call to SDO Field Electrical 01883-237144 (O)
2nd call to SDO Elect Workshop Sansarpur Terrace 01883-236005(O)

3rd call to SDO Transmission 94174-75202
4th call to SDO Electrical Accounts Talwara 01883-236126 (O)

11. SDO Electrical & Accounts Talwara will make two No. calls as below:

1st call to Xen Elect Talwara 01883- 236056(O)
- 236017(R)
2nd call to Xen HRD & Quality Control Talwara 01883- 236102 (O)
-236075(R)
8264925934

12. Xen HRD & Quality Control Talwara will make call to ensure the messages have been delivered to each individual as per NFC

13. Xen Elect. Talwara will make five No. calls as below:

1st call to S.E. Pong Dam Circle Talwara 01883-236125(O)

- | | |
|--|----------------------------------|
| | 9417169367 |
| 2 nd call to DSP Dehra (HP) | 01970-233439 |
| 3 rd call to DSP Mukerian Punjab | 01883-244367 |
| 4 th call to DFO Dehra (HP) | 01970-233156 |
| 5 th call to DFO Dasuya Punjab | 01883-283007 |
| 14. ASP-II will make three No. calls as below: | |
| 1 st call to Superintendent PS&D Talwara | 01883-236094(O)
-236068 (R) |
| 2 nd call to SDO Store | 01883-236011 |
| 3 rd call to SDO Disposal | 01883-236011 |
| 15. Xen Mech. Talwara will make three No. calls as below: | |
| 1st call to Director/Designs Nangal T/ship | 01887-223108 |
| 2nd call to Director/Dam Safety Nangal T/ship | 01887-223179 |
| 3rd call to S.E. Talwara Circle | 01883-236013(O)
-236114 (R) |
| 16. SDO Field Mech. will make two No. calls as below: | |
| 1 st call to SDO Transport | 01883-236018 |
| 2 nd call to SDO Mech. Workshop | 9417012049 |
| 17. SE Pong Dam Circle, Talwara will make four No. calls as below | |
| 1 st call to C.E. Beas Dam Talwara | 01883-237131(O)
-237133(R) |
| 2 nd call to Director Security Chandigarh | 0172-5011762-763 |
| 3 rd call to S.E. Pong Power House Talwara | 01883-236171(O)
-237149(R) |
| 4 th call to contact expert members | Annexure-XVII |
| 18. C.E. Beas Dam will make nine No calls as below: | |
| Ist call to Member / Irrigation, BBMB, Chandigarh | 0172-5011752-53
9417022944(M) |
| 2 nd call to Chairman BBMB, Chandigarh | 0172-5011750-51 |
| 3 rd call to D.C. Hoshiarpur | 01882-220301-302 |
| 4 th call to C.E. Generation, Nangal | 01887-223355(O)
-2231246 (R) |
| 5 th call to C.E. Bhakra Dam Nangal | 01887-223001(O)
-223024(R) |
| 6 th call to C.E. B.S.L. Sundar Nagar | 01907-262333(O) |

- 7th call to C.E. Ranjit Sagar Dam 01870-263244
8th call to concerned SE Harike Headworks 01632-246203
9th call to SE Madhopur Beas link 01870-257239
- 19. Chairman, BBMB Will make two calls as below:**
1st Call to Ministry of Power GOI 011-23717474(O)
-23017957(R)
2nd call to Indian Army as per Annexure-X
- 20. C.E. / Generation will make single call to Member Power, BBMB.**
0172-2549486(O)
-2661498(R)
- 21. S.E. / HQ will make nine calls as below:**
1st call to Secretary, BBMB, Chandigarh 0172-2548572(O)
- 2661499(R)
2nd call to Fire Tender Uchi Bassi 9216968319
3rd call to civil Hospital Hazipur 01883-272252
4th call to Civil Hospital Mukerian 01883-244702
5th call to Health Centre Bholkatola 01883-232723
6th call to all concerned D.Cs of the State as per Annexure-IX
7th call to SP Dharamshala 01892-222244
8th call to SP Hoshiarpur 01882-220501(O)
9th call to News Media Radio & TV as per Annexur-XI
- 22. Secretary, BBMB will make three No. calls as below:**
1st call to Secretary Punjab Irrigation 0172-2740156-860
-2569811(R)
2nd call to Secretary Rajasthan Irrigation. 0141-2227254(O)
-2710659(R)
3rd call to Secretary Haryana Irrigation 0172-2740118(O)
-2543505(R)
- 23. SDE Water Regulation will make four No. Calls as below:**
1st call to Director Water Regulation, Nangal 01887-223758(O)
-223036(R)
2nd call to Xen Shah Nehar Barrage 01883-236044
3rd call to IMD/CWC New Delhi 011-27662607
-26108855
4th call to Fishery Department Kangra 01893-201282
- 24. Director Water Regulation will make eight Nos. calls as below:**
1st call to Member/ Irrigation, BBMB 0172-5011752-53
2nd call to Xen Harike Headwork 01632-246210
3rd call to Xen Madhopur Beas Link 01870-257239
4th call to IMD New Delhi 011-27662607

- | | |
|---|---------------------------------|
| 5 th call to SE Harike Head Work | 01632-246203 |
| 6 th call to SE Madhopur Beas Link | 01870-257239 |
| 7 th call to Director Power Reg. Chandigarh | 0172-2652820(O)
-2726802(R) |
| 8 th call to C.E. System Operation, Chandigarh | 0172-2653660(O)
-2283696(R) |
| 25. PSO will make three No calls as below: | |
| 1 st call to C.E. Beas Dam Talwara | 01883-237131(O)
-223133(R) |
| 2 nd call to Director Security Chandigarh | 0172-5011762-63 |
| 3 rd call to all concerned | |
| 26. Director Security will make Single call to Member (Irr.) | 0172-5011752-53 |

Annexure-A (Fig.2)

**INTERNAL ALERT & DEVELOPING SITUATION NOTIFICATION
FLOW CHART FOR EAP PONG DAM**

- 1. After knowing about the occurrence of incident Xen Pong Dam will make calls as below:**

Call to SE PDC Talwara	01883- 236125 (O) -237150 (R) 9417169367
Call to C.E. Beas Dam Talwara	01883-237131(O) -237131(R) 94172-16052
Call to Distt. Civil. Protection Authority	01882-220307(O) -246089 01882-220407(R)
- 2. Distt. Civil. Protection Authority will make Calls as below:**

1 st Call to C.E. Beas Dam Talwara	01883-237131(O) -237131(R) 94172-16052
2 nd Call to Divisional Commissioner Jalandhar	0181-2224549 (O) -2459661 (R)
3 rd Call to State Weather Service- IMD Chandigarh	0172- 2629984(O) -2629981(R)
- 3. C.E. Beas Dam Talwara will make calls as below:**

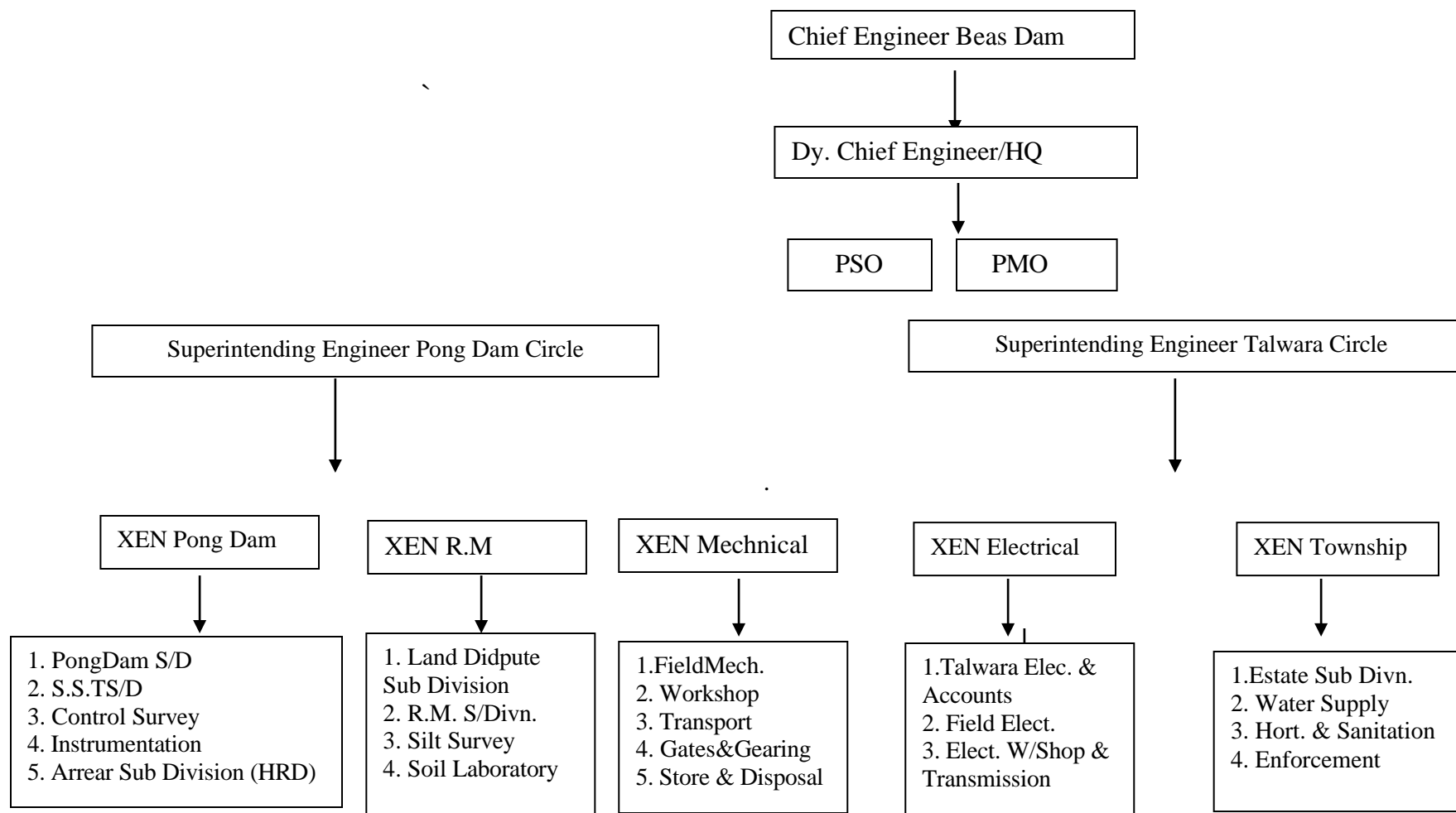
Call to Deputy Commissioner (Indus) Delhi	011- 24360332 (O) 011- 24100787 (R) 09650388955(M)
Call to Regional Chief Engineer-CWC Chandigarh	0172-2741766 (O) 0172-2742435 (R)
Call to Chairman, BBMB Chandigarh	0172-5011751(O)

Call to In-Charge Dam Safety Organization Chandigarh	0172-2661528(R) (Fax) 01722549857
Call to Flood Control Cell (Hoshiarpur)	0172-2637569(O) (Fax) 01722642327 01882-220301(O) 01882-220302(R)
4. Divisional Commissioner Jalandhar will make call as:	
Call to Flood Control Cell (Hoshiarpur)	01882-220301(O) 01882-220302(R)

Annexure-VI Sample warning messages for different situations.

1. Blue situation of Emergency (inter Alert)
 - i) Slide occurred at right abutment upstream area
 - ii) Damage to grid Stream by floating equipment.
2. Yellow situation of Emergency (Internal Alert)
 - i) H.M.D. showing d/s movement of dam & seepage Increased in galleries.
 - ii) Damage occurred to U/S pitching due to high waves.
3. Orange situation of Emergency (External Alert)
 - i) Huge fire in cable gallery getting onto of control.
 - ii) Huge Land slide occurred in right abutment & inflows increasing.
4. Red situation of Emergency (External Alert)
 - i) High in flows are coming i.e. ± 200000 cs (More flood expected as per IMD) overtopping imminent.
 - ii) Spillway gate No ---- Inoperative at RWL+ 1410 inflows are ± 300000 cs.

ORGANISATIONAL SET-UP OF BEAS DAM PROJECT



ANNEXURE-VIII

CONTACT NOS. OF AGENCIES KEEPING SNIFFER DOGS & BOMB SQUAD

Sr.No.	Name of officer/ address	Bomb Squad Tel. No.	SnifferDogTel. No.
1	Control Room Jalandhar	0181-2240609-10	9592918501
2	Superintendent of Police, Dharamshala	01892-222244	- -
3	SP/ Shimla	91-177-2656535	8894728001
4.	ADGP/CID, Shimla (Control Room)	-	91-177-2623063
5.	Control Room(police) Ludhiana	-	7837018500

ANNEXURE-IX

**LIST OF DEPUTY COMMISSIONERS OF PUNJAB & HIMACHAL
PRADESH DISTRICTS**

1. Deputy Commissioner Kangra	01892-222103-O
2. Deputy Commissioner Hoshiarpur	01882-220301-O
	01887-220302-R
3. Deputy Commissioner Gurdaspur	01874-247500-O
	01874-224501-R

ANNEXURE-IX-A**LIST OF LOADING CENTRES ON RESERVOIR RIM**

Sr.No.	Name of Societies	Name of Secretary	Contact No.
1.	Dehra	Sh. Baljeet Singh	9882298726
2.	Haripur	Sh. Gorkha Kumar	9418444851
3.	Nandpur	Sh. Maan Singh	9816924387
4.	Nagrota Surian	Sh. Manohar Lal	9816820327
5.	Harsar	Sh. Rajesh Kumr	9805164972
6.	Jawali	Sh. Sanjay Kumar	9736328255
7.	Guglara	Sh. Kuldeep Singh	9418716704
8.	Dhameta	Sh. Chander Kant	9805895400
9.	Sihal	Babli	9816176075
10.	Khatiar	Sh. Bodh Raj	8628956549
11.	Sathana	Sh. Chaman Lal	9459288496
12.	Barnali	Smt. Kamlesh Kumari	8628826872
13.	Dada Siba	Sh. Vinay Sipehiya	9816585888
14.	Jambal	Sh. Kaur Chand	9625139482
15.	Suel Khad	Sh. Pawan Kumar	9816491909

ANNEXURE-X

CONTACT NUMBERS OF INDIAN ARMY (Defence Volunteer)

Sr. No.	Name of Army Persons (Retd.)	Mobile No.	Remarks
1.	Capt. Sh. Bakshish Rana	8699200551	-
2.	Major Sh. Jasbir Singh	8968271056	-
3.	Sh. Rampal	7838041637	-
4.	Sh. Sharan Singh	9779505972	-
5.	Sh. Balwant Rana	6280114983	-
6.	Sh. Umesh Kumar	9463004819	-
7.	Sh. Ashwani Kumar	9814253252	-
8.	Sh. Jaswant Singh	9478637284	-
9.	Sh. Naseeb	9682580270	-
10.	Sh. Vijay Kumar	8289089310	-
11.	Sh. Gurcharan Singh	9878581559	-
12.	Sh. Ravi Dass	9149842543	-
13.	Sh. Sham Sunder	6005544957	-

ANNEXURE-XI**LIST CONTAINING CONTACT NUMBERS OF MEDIA PERSONS**

Sr.No.	Name	Telephone No.	Name of Paper
1.	Sh. Raman Tandon	9417088779	Punjab Kesari
2.	Sh. Surinder Sharma	9465147822	Dainik Bhaskar
3.	Sh. Rajiv Osho	9872787714	Ajit Samachar
4.	Sh. Sumerjit Shammy	9417355724	Ajit Samachar
5	Sh. Rakesh Sharma	9872635007	Amar Ujala
6.	Smt. Anuradha	9417934550	Punjab Kesari
7.	Sh. R.K. Ghai	9417074464	Nawan Jamana

DOORDARSHAN JALANDHAR (TV)

Sr.No.	Name	Telephone No.
1.	DOORDARSHAN JALANDHAR	0181-2341203

Facilities to be made available in each control room

1. Emergency rescue lights (5Nos)
2. Diving masks(2Nos)
3. Safety net (5mx5m)5Nos
4. Safety rope (1000m long 25 mmdra)
5. Rope Ladders (10m long 5Nos)
6. Full body harness (Safety belts 10 Nos)
7. Ascending & Descending device (5Nos)
8. Safety Helmets with head lamps (10Nos)
9. Ear muffs /dust respirators/gum boots/safety shoes for 10 persons.
10. Electric Hand gloves/ chemical hand gloves (5 pairs each)
11. Fire extinguisher (5 Nos.)
12. Mobile D.G. Set
13. Stretchers (5 Nos)
14. First-Aid Kit (10 Nos)
15. Artificial Resuscitators (5 Nos)
16. Hand held torches (5Nos)

ANNEXURE-XIII**LIST OF VILLAGES D/S &U/S OF PONG DAM ALONG WITH NAMES OF
SARPANCHES & NGOs**

Sr.No.	NameofVillage	Name of Pardhaan of Garam Panchayat	Mob.number
1.	Nagar Panchayat Talwara	Sh. Harsh Arora	9417324577
2.	Nagar Panchayat Jawali	Sh. Rajinder Kumar	9418989214
3.	Sansarpur Terrace Panchayat Ghati	Sh. Rajeshwar Singh	8628809588
4.	Mashaut	Sh. Brij Bhushan	8580576216
5.	Matlahar	Sh. Ashwani Kumar Chaudhary	9816330901
6.	Harsar	Sh. Kamal Chaudhary	8219978751
7.	Badukhar	Sh. Naveen Dhiman	9816232620
8.	Jakhara	Smt.Veena Devi	8894139395
9.	Bari (Sanda)	Sh. Ravinder Singh Bagga	9816166099
10.	Dehra	Smt.Sunita Kumari	9816798787
11.	DadaSiba	Sh. Vijay Kumar	6230198146
12.	Sathana	Sh. Manohar Lal	8968422809
13.	Rey	Smt. Usha Devi	9816578038
14.	Dhameta	Smt. Kavita Sharma	9805043253
15.	Khatiyar	Sh. Surjeet Singh	7018587714
16.	Guler	Sh. Sunil	8219113401
17.	Nagrota Surian	Smt. Rajni Mahajan	9805325323

LIST OF PERSONS TO BE NOTIFIED DURING EMERGENCY AND OTHER CONTACT NUMBERS

Sr. No.	Name and designation	Home address	Contact number
1.	Er. Rakesh Kumar Gupta, Chief Engineer Beas Dam Talwara	2/T-8, Sector-I	9352714841
2.	Er. Ajay Bhardwaj Dy. Chief Engineer /HQ Talwara	311/T-7, Sector-I	9530903084
3.	Er. Manveen, S.E. PDC Talwara	313/T-7, Sector-1	8264925934
4.	Er. Harpinderjit Singh, S.E. Talwara Circle	312/T-7, Sector-1	9888760691
5.	Er. A.P.S. Ubhi, XEN Water Regulation	6/T-6, Sector-II	9417201136
6.	Er. Vinay Kumar Kutlehria, Township Div.	-	9815954877
7.	Er. Harpreet Singh, XEN Pong Dam Divn.	920L/T-5 Sector-III	8968176839
8.	Er. Harpreet Singh, Xen R.M. Division.	920 L/T-5, Sector-III	8968176839
9.	Sh. Vishal Sharma, CFO, Fire Station BBMB Talwara	903-U T-5, Sector-3	8591822997
10.	Er. Satish Sharma, SDO Field Mechanical S/Divn.	-	9417469567
11.	Er. Gopal, ADE/Env. o/o CEBD	917L/T5, Sector-III	9478180257
12.	Er. Gourav Lamba XEN, Mechanical Divn.	907L/T-5, Sector- III	9988427291
13.	Er. Rajender Singh, SDO Field Elect.	7L/T5-Sector-I	94672-71175
14.	Er. Lovepreet Singh SDO Pong Dam S/D	-	7888513102
15.	Er. Anil Kumar, SDO Instrumentation Sub Division	420L/T-5, Sector-III	7018676699
16.	Er. Shri Krishan SDO Electrical Divsiion	911L/T5-Sector-III	9729724767
17.	Er.S.K. Dadhich, XEN Electrical Division	410L/T-5, Sector-I	9417206939

18.	Er. Ketan Sharma, SDO Transportation S/Divn.	-	7009906921
19.	Dr. Surinder Pal Singh, PMO	-	9417286069
20.	Dr. Raj Kumar, SMO BBMB Hospital	210/T-6, Sector-I	9463059843
21.	Dr. Amarjit Singh, SMO BBMB Hospital	219/T-6, Sector-I	9463067536
22.	Dr. Shobna Soni SMO BBMB Hospital	219/T-6, Sector-I	9915889355
23.	Sh. Rohit Salaria, Principal DAV School	-	9501761995
24.	Sh. Surinder Pal Singh, P.S.O. BBMB Security	-	9872811103
25.	Er. Dheeraj Kumar SDO, Estate Sub Division	909L/T-5, Sector-III	9417012037
26.	Er. Rajesh Kumar, SDO Enforcement Sub Division Talwara	5/T-6, Sector-II	9466658056
27.	Er. Rajeev Kumar, SDO, G&G Sub Division	-	8360654749

GENERATION ORGANISATION PONG POWER HOUSE CIRCLE.
BBMB TALWARA

Sr. No.	Name	Designation	Mobile No.
1	Er. Ajit Kumar	Superintending Engineer, Pong Power House, BBMB Talwara	9417201138 7717994429
2	Er. Kabul Singh	Executive Engineer, Pong Power House, BBMB Talwara	9812026181 8360261198
3	Er. Puneet Kumar Mahajan	Resident Engineer, Power Wing, BBMB Talwara	9465762061 9417841579
4	Er. Jagir Singh Gill	Sub Divisional Officer, Pong Power House, BBMB Talwara	9417381586
5	Er. Vikas Katoch	Sub Divisional Officer, Pong Power House, BBMB Talwara	9888859498
6	Er. Yash Bharadwaj	Sub Divisional Officer, Pong Power House, BBMB Talwara	8619132269
7	Er. Vishnu	Sub Divisional Officer, Operation Pong Power House, BBMB Talwara	9418747242
8	Er. Manoj Kumar Singh	Sub Divisional Officer, Pong Power House, BBMB Talwara	9478839399

Emergency event/unusual Occurrence Report

For use when reporting emergencies for unusual occurrence other than earthquake oil and hazardous substance spills and bomb threats. For any of the three aforementioned emergencies use the appropriate report from because this is a general form, there will be sections that do not pertain to the emergency. Only fill out those sections that are applicable to the emergency.

Date-----

Time-----

Location-----

Brief description of events (include caller s name and phone number

-----**Pertinent Data**

Size of affected area -----

Extent of damages -----

Effect of operations -----

Possible cause -----

Rate of discharge -----

Appearance of discharge -----

Fore bay elevation-----

Appearance of fore bay-----

Fore bay rise rate----- Tail bay rise rate-----

Weather condition -----

Injuries/loss of life -----

Witness-----

Others -----

Earthquake Damage Report: For Reporting Earthquakes

The.....dam (latitude-----longitude.....

Lies within seismic zone ----- where major damages can be expected from earthquakes. The dam has the possibility of being subject to moderate to severe ground shaking from nearby or distant moderate to large magnitude earthquakes.

Earthquake Damage Report

Date..... Time.....

Person Reporting information

Feature Affected.....

Description of Earthquake Effects

On structural conditions

Type of damage (slides subsidence etc.....

Location.....

Severity.....

Movement (direction magnitude)

Deflection or Settlement Readings.....

Effect on adjoining structure

On hydraulic conditions

Type of effect (leakage or stoppage.....

Location.....

Size of affected structure

Estimated flow or change in flow

Nature of discharge (including sediment) -----

Wave action damage

Others

Site Conditions

Water Surface elevation / stoppages

Location

Size of affected area

Estimated flow or change in flow

Nature of discharge (including sediment)

Wave action damage

Others

Action

Change in operation

Emergency repairs

Surveillance

Regional assistance needed (examination)

Public information provided

- To facilitate analysis of conditions a map should be prepared showing the location and extent of a damaged areas such as subsidence areas seeped areas springs and other pertinent data including the dated of readings and site conditions at the Time of observation. This map should be revised periodically to show changing condition until they are stabilized.

Bomb Threat Report: For Reporting Bomb Threat BOMB THREAT

Place this card under your telephone

Question to ask:

1.	When a bomb is going to explode?	15. Caller's Voice	
2.	Where is it right now?	....calm....	...Nasal...
3.	What does it look like?	....Angry....	....Stutter....
4.	What kind of packet is it?	....Excited....	....Lisps....
5.	What will cause it to explode?	....Rapid...	....Raspy....
6.	Did you place the bomb?	....Soft....	....Deep....
		....Loud....	....Ragged....
		....Laughter....	....cleaning....
		....Crying....	....throat....
		....Normal...	....Deep....
		....Distinct....	....Breathing....
		....Slurred....	....cracking voice..
			...Excited...
			...disgusted...
			...Accent...
			...Familiar...
7.	Why?	If voice is familiar, who did it sound like?	
8.	What is your address?	17. BACKGROUND SOUNDS	
9.	What is your name?	....Street noises...	...Factory...
10.	EXACT WORDING OF THE THREAT	....Motor...	...Machinery...
		....Crocery...	...Animal noises...
		....Voices...	....clear...
		....PA system...	...Static...
		....Music...	...local...
		....House noises...	...Long distance..
		....Cellular...	...Other..
		....office machinery..	
	OTHER INFORMATION	17. THREAT LANGUAGE	
11.	Sex of caller M or F accent/race	....well spoken... (educated) ....Foul... ....Irrational...	...Incoherent... ...Taped... ...Message... Read by threat maker
12.	Age.....length of call	18. REMARKS	
13.	No. at which call is received.....	Report call immediately to phone No. Date.....	
14.	Time.....Date.....	Name..... Position.....	

Annexure-XVI

Name of MC's & Sarpanches D/S & U/S of Pong Dam with contact numbers

Sr. No.	Name of Village	Name of Pardhaan of Garam Panchayat	Mob. number
1.	Nagar Panchayat Talwara	Sh. Harsh Arora	9417324577
2.	Nagar Panchayat Jawali	Sh. Rajinder Kumar	9418989214
3.	Sansarpur Terrace Panchayat Ghati	Sh. Rajeshwar Singh	8628809588
4.	Mashaut	Sh. Harpal Singh	8580576216
5.	Matlahar	Sh. Ashwani Kumar Chaudhary	9816330901
6.	Harsar	Sh. Kamal Chaudhary	8219978751
7.	Badukhar	Smt. Bindu Bala	8580905891
8.	Jakhara	Smt. Veena Devi	8894139395
9.	Bari (Sanda)	Sh. Ravinder Singh Bagga	9816166099
10.	Dehra	Smt. Sunita Kumari	9816798787
11.	Dada Siba	Sh. Vijay Kumar	6230198146
12.	Sathana	Sh. Manohar Lal	8968422809
13.	Rey	Smt. Usha Devi	9816578038
14.	Dhameta	Smt. Kavita Sharma	9805043253
15.	Khatiyar	Sh. Surjeet Singh	7018587714
16.	Guler	Sh. Sunil	8219113401
17.	Nagrota Surian	Smt. Rajni Mahajan	9805325323

ANNEXURE XVII**LIST OF EXPERTS / RETIREES WELL CONVERSANT WITH
DAM REPAIRS**

Sr. No.	Name and Designation	Home address	Contact No.
1.	Er. Mandeep Singh Sokhey, Addl. SE, BBMB Talwara (Retd.)	Kharar	7696876138
2.	Er. P.A. Kapoor	Kothi No. 661, Sector-15, Faridabad	011-26412801 011-26417639
3.	Sh. R.N. Aggarwal Retd. Chairman, BBMB	1/135, Shikha Apartments Sector-5, Mansa Devi Complex, Panchkula, Haryana	98185-98908-M
4.	Er. Narinder Sharma Retd. Chief Engineer, Beas Dam	Kothi 994, Sector-9 Panchkula, Haryana	0172-2560295 09417516581-M
5.	Er. N.K. Jasrai Retd. Chief Engineer, Beas Dam	3Ka-16, Pawan Puri Colony, Nagnagi Road, Bikaner (Rajasthan)	09413131437-M

ANNEXURE-XVIII**TELEPHONE DIRECTORY OF DAM SITE**

Sr No	Phone No.	To Whom Allotted (I.W)	Sr. No	Phone No.	To Whom Allotted
1	237144	P&T (Telephone Exchange)	36	435	Police Post Near PI, P2, P3
2	401	Telephone Exchange	38	436	Police Post right side
3	402	XEN Regulation Cell	39	437	Police Post main gate S/ Yard
4	403	SDO Pong Dam S/ D.	40	438	Police Post main gate P/ House
5	404	SDO Field Electrical	41	439	Police Post power House
6	405	SDO Gate & Gearing	42	440	Police Line Ghati
7	406	SDO RM Sub Divn.	43	441	11KV Sub Station Dam Site
8	407	SDO SST Sub Divn.	44	442	33KV Sub Station Terrace
9	408	SDO Control survey	45	443	66KVSub Station Dam Site
10	409	SDO Silt Survey	46	444	Fire Station Dam Site
11	410	SDO Instrumentation	47	445	Sedimentation Tank
12	411	SDO Elect.W/shop Terrace	48	446/447	T-1 (Near Spillway)
13	412	SDOMachine w/shop Terrace	49	447/446	T-2 (Near Spillway)
14	413	SDO Store S/Divn. Terrace	50	448	Control Room Regulation
15	414	SDO Auto shop Terrace	51	420	Driver Room
16	415	SDO Field Mech. S/Divn.	52	450	Floating Equipment
17	416	ARO Soil Lab	53	452	Compressor House
18	417	ADE Regulation	54	459	SDO Night Duty
19	418	ADE Design Cell	55	460	Spillway Gallery
20	419	JE G & G (control Room)			POWER WING
21	449	JE Pong Dam Sub Divn.	56	453	SE PPH (PW)
22	421	JE Field Elec.(Dam Top)	57	454	XEN Elect. Mtc. (PW)
23	422	JE T/Exchange M-9805916969	58	455	Xen Op. PPH (P.W)

24	423	JE S.S.T Sub Divn.	59	456	Control Room (PPH)
25	424	JE Bit Shop	60	457	Control Room (Sw/ Yard)
26	425	JE Pipe Shop	61	458	P1, P2, P3 Shafts
27	426	JE Field Elect. (D/S of Dam)	62	459	Dispensary Dam Site
28	427	JE Committee Room			
29	428	Committee Room Main			
30	429	Check Post Ghatti			
31	430	R/S check Post			
32	431	Main Gate Terrace			
33	432	Police Post Ghatti			
34	433	Police Post Sathana			
35	434	Police Post Near T1&T2			

ANNEXURE-XIX (Pages1 to 17)

Contacts of Employees: Officers/Officials Working in Dam Area.

R.M. Divn, BBMB, Talwara

Sr. No.	Name Of Employees	Designation	Address	Contact No.
1	Er. Harpreet Singh	XEN	920L/T-5/Sec-3	9417456978
C-Branch				
1	Shri Rajnesh Kumar	Sr. Asstt.	T3/1405-L Sec-3	9417384427
2	Shri Surinder Singh	Ch/Man.G-1	T3/1677L, Sec-3	9417060396
3	Shri Suresh Kumar	Ch/Man	T2/1208L, Sec-3	8894561245
4	Smt. Sonia	Data Entry Operator		
5	Shri Pawan kumar	Peon	T1/1121L, Sec-1	9463882173
6	Shri Balkar Singh	Peon	T2/638L ,Sec.1	9803537010
Account Section				
1	Shri Raman Kumar	Sr. Asstt.	T3/1406 U, Sec.3	9459027887
2	Smt.Urmila Devi	Clerk	T3/1412 L, Sec-3	7696400182
3	Shri Daljit Singh	Ch/Man	T3/1135 L, Sec-3	9465249380
4	Shri Joginder Singh	Time Clerk	T3/1025 U, Sec.1	9876643338
5	Smt.Bimla	Peon	T2/642 U, Sec.1	9781922664
Drawing-Branch				
1	Shri Naresh Gupta	CHD	1058L/T-3C/Sec-3	9465334208
2	Smt.Ritu Thaper	Data Entry Operator		7508208314
Legal Section				

1	Smt. Dimpal	L.O. Gr- 1	910L/T5,Sec-3	94643-17217
2	Shri Ravi Parkash Punj	L.O.Gr-II	9-U/T5,Sec-1	9417601320
3	Shri Ashok Kumar	Patwari	T2/1272L,Sec-1	8278751405
4	Smt.Savita Kumari	Peon	T2/1037U,Sec-1	9478174913
Land Dispute Sub-Division				
1	Er.Vishal Sharma	S.D.O.	903U/T5/Sec-3	8591822997
2	Er. Tilak Raj	J.E.	732L/T2, Sec-1	9914469477
3	Shri Harmail Chand	Supervisor	T3/1008L,Sec.1	9878039406
4	Shri Avinash Kumar	ARC	T3/1158L,Sec.3	94174-75315
5	Shri Kiran Bala	Patwari	T3/1158L,Sec.3	94174-75315
6	Smt. Kanta Devi	Peon	T2/565L,Sec.3	9465861427
Silt Survey Sub Division				
1	Er.Kuldeep Singh	SDO	T-5/4-L, Sec-1	9803414449
2	Er.Jaswinder Kumar	JE	412L/T-4,Sec-3	9417291865
3	Shri Amit Kumar	Surveyor	T3/1438L,Sec-3	7011931166
4	Shri Ashok Kumar	Beldar	T1A/816,Sec,1	9418764505
R.M. Sub-Division				
1	Er. Kuldeep Singh	SDO	T-5/4-L, Sec-1	9803414449
2	Er.Manish Sharma	J.E.	T4/429U,Sec.3	9041417700
3	Er.Varun Kumar	J.E.		8054351809
4	Shri Kamlesh Kumar	ARC	T4/432U, Sec.3	9878395083
5	Shri Harjinder Singh	ARC		9463644364
6	Shri Gurwinder Singh	Patwari	T2/1272L,Sec-1	9781822066
7	Shri Ashok Kumar	Patwari	T2/1272L,Sec-1	
8	Shri Rajat Kumar	Patwari	T3/1652 L,Sec.3	95923-85993
9	Shri Maninder	Patwari		
10	Shri Chaman Lal	Chargeman Gr-I	T3/1540L,Sec-3	6280884759
11	Shri Hussan Lal	Chargeman Gr-II	T3/1540L,Sec-3	9646030778
12	Shri Kewal Singh	Supervisor	T3/1429L,Sec.3	98030-34364
13	Shri Rohit	Supervisor		
14	Shri Sandeep Singh	Silt Observer	T2/635U,Sec.1	98772-36656
15	Shri Jeet Raj	Masson Gr-I	T3/1168L,Sec.3	9478849220
16	Shri Rajmal	Masson Gr-II	T3/1609L,Sec.3	94781-78337
17	Shri Harbansh Lal	Work-Mistry		
18	Shri Daulat ram	Beldar	T2/1254L,Sec.1	98763-56264
19	Shri Harnam Singh	-do-	T2/635U,Sec.1	94171-80508
20	Shri Ramlal	-do-	T2/1042U,Sec.1	99145-12034
21	Shri Naresh Kumar	-do-	T2/607L,Sec.2	89688-82399
22	Shri Gulab Mashi	-do-	T2/724L,Sec.1	88725-61923
23	Shri Chaman Lal	-do-	T2/715U,Sec3	9646318678
24	Shri VishwaMittar	-do-	T2/1227U,Sec-1	9463042276
25	Shri Ashok Kumar	-do-	T2/652U,Sec.2	9465843584
26	Shri Ramesh Singh	-do-	T2/656L,Sec.3	9464034494

27	Shri Sher Singh	Beldar	T2/1208U,Sec.1	9463111813
28	Shri Jagarnath	-do-	T3/1165U,Sec-3	8872588226
29	Shri Pardhan Singh	-do-	T2/1256U,Sec.3	93188-45353
30	Shri Ashwani Kumar	-do-	T2/724U,Sec.1	9463220438
31	Shri Roop Lal	Beldar	T2/1273L,Sec.3	76962-77467
32	Shri Mohan Singh	-do-	T2/1274U,Sec.1	9882624588
33	Shri Kewal Krishan	-do-	T3/909U,Sec-1	8699292136
34	Shri Jarnail Singh	-do-	T2/1278U,Sec.3	9478844031
35	Smt.Sapana Rani	-do-	T2/1231L,Sec.3	9855776261
36	Smt.Shankutla Devi	-do-	T1/865U,Sec.1	9041876117
37	Shri Singaram			9888351364
38	Shri Mahinder Singh			9805499371
39	Shri Ravi Kumar			8847648293
40	Shri Roshan	Safaisewak	T1/866U,Sec.1	8580664052

Research Lab Dam Site

1	Er Kuldeep Singh	ARO	T-5/4-L, Sec-1	9803414449
2	Er.Manish Sharma	J.E.	T4/429U,Sec.3	9041417700
3	Shri Gulab Singh	SA	T2/744L,Sec-1	94177-57560
4	Shri Shiv Kumar	SA	T3/1439L,Sec-3	98787-71222
5	Shri Sethi Singh	S.Obs.	V.Mail Chamba	98824-02412
6	Shri Dinesh Singh	S.Obs.		
7	Shri Satish Kumar	ALA	V.Nangal Chowk	94183-30722
8	Shri Rahul Thapa	ALA		
9	Shri Vinay Kumar	Beldar	T1/563,Sec-1	9882082372
10	Shri Raj Kumar	Supervisor		
11	Shri Dharminder Singh	Work-Mitry	T2/1324U,Sec.1	9816531585
12	Shri Narjeet Singh	Beldar	T2/1327U,Sec.1	9646062360
13	Shri Satbir Singh	Beldar	T2/1255U,Sec.3	9465146275
14	Shri Ramesh Singh	Beldar	T2/1208U,Sec-1	9463111813
15	Shri Kuldeep Singh	Beldar	T2/1279U,Sec-1	9530678952
16	Shri Jatinder Singh	Peon		8360732366

Fire Station BBMB Talwara

1	Er Vishal Sharma	Chief Fire officer	903U/T5/Sec-3	8591822997
2	Er Tilak Raj	J.E.	732L/T2, Sec-1	9914469477
3	Shri Harjinder Kumar	Sub Fire officer	910-U T5 Sec-3	84377-42883
4	Shri Rajesh Kumar	Leading Fireman	418-L T5 Sec-1	70097-54055
5	Shri Harwinder Singh	Leading Fireman	1426-L T3C Sec-1	94171-72696
6	Shri Bachitter Singh	Leading Fireman	2-U T5 Sec-1	94174-93198
7	Shri Navpreet Singh	Leading Fireman	942-L T3 Sec-1	95308-40426
8	Shri Raj Kumar	Leading Fireman	-----	94178-82472
9	Shri Ramesh Kumar	Leading Fireman	978—L T3 Sec-1	94657-66304
10	Shri Surinder kumar	Leading Fireman	1576-L T3 sec-3	96466-27082

11	Shri Rajeev Kumar	Fireman	901-L T3 sec-1	98885-06652
12	Shri Sham Lal	Fireman	1636-L T3 Sec-3	94640-58421
13	Shri Kamaljit	Fireman	1149-L T3 sec-3	99144-09235
14	Shri Karnail singh	Fireman	410-U T5 Sec-1	94639-06041
15	Shri Jagdev Singh	Fireman	1247-L T2 Sec-1	94176-72983
16	Shri Ranjit Singh	Fireman	633-L T2 Sec-2	94640-62450
17	Shri Naveen Kumar	Fireman	652-L T2 sec-2	98760-15675
18	Shri Darshan kumar	Fireman	1273-L Sec-1	95308-80110
19	Shri Gurbachan Lal	Fireman	940-L T3 sec-1	94782-04386
20	Shri Deva Nand	Fireman	1376-U T3 Sec-1	95309-67810
21	Shri Dilawar singh	Fireman	1158-L T3 Sec-3	95922-90186
22	Shri Raj Kumar (HP)	Fireman	751-U T2 sec-3	98162-27559
23	Shri Sashi kumar	Fireman	1212-L T2 Sec-1	7696380975
24	Sh.Mohinder Kumar	Fireman	741-L T2 SEC-3	98161-43388
25	Shri Dhanna Singh	Fireman	632-L T2 sec-2	95922-90186
26	Shri Parveen Kumar	Fireman	1379-U T3 sec-1	98134-53101
27	Shri Jagseer ram	Fireman	1366-L T3 sec-1	99145-46384
28	Shri Jaswant Singh	Fireman	1104-L T3 Sec-3	86991-51704
29	Shri Davinder Singh	Driver	1276-L T2 SEC-1	94180-72043
30	Shri Arundeeep singh	Driver	929-L T3 Sec-1	98154-62013
31	Shri Arjun Arora	Driver	1617-LT3 Sec-3	62831-58119
32	Shri Shiv Dyal	Driver	916-L T3 SEC-1	9463473229
33	Shri Balbir Singh	Fireman	1027-L T3 SEC-1	9417070883

List of Employees of Pong Dam Divn. BBMB, Talwara / (Pong Dam S/D)

Sr. No.	Name Of Employees S/Shri	Designation	Address	Contact No.
1.	Er. Hapreet Singh	Executive Engineer	920-L T-5 Sec-3	9815516839
2	Er. Dharminder Singh	SDO	210 T-6 Sector-1	9501114327
3.	Er. Lovepreet Singh	S.D.O.	205 T-6 Sector-1	7888513102
4.	Er. Mangender Yadav	J.E.	16-L T-5 Sector-1	9877881800
5.	Er. Karminder Singh	JE	412-U T-4 Sector-3	7009916674
6.	Er. Gurpreet Singh	JE	-	9478317217
7.	Satish Kumar	Photographer	410 L/ T4 Sector3	9465577918
8.	Pardeep Kumar	CHD	-	8360036060
9.	Er. Som Raj	JE	939 U T3 Sec1	7018167847
10.	Er. Navdeep Kumar	JE	436 U T4 Sec3	9501034069
11.	Anil Sharma	Clerk	1450-U/T3, Sec-3	9465327242
12.	Sheetal Kumari	Sr. Asstt.	1060-U/T3, Sec-3	9876569258
13.	Surinder Kumar	Clerk	687-LT2, Sec-1	9896255436
14.	Vijay kumar	Supervisor	1510L, T-3 sec.3	9417757195
15.	Raj Kumar	Ch/Man	734L, T-3C, Sec-3	9501801484

List of Employees of Electrical Divn. (Field Electrical S/Divn. Dam Site)

Sr. No.	Name Of Employees S/Shri	Designation	Address	Contact No.
1	Er. S.K. Dadhich	XEN	-	8968421555
2	Er. Krishan Kumar	SDO	-	9729724767
3	Er. Naveen Sharma	J.E.	575 L T2 Sec.3	9041498468
4.	Er. Satnam Singh	J.E.	-	9780029725
5.	Er. Iqbal Singh	JE	-	9988893009
6.	Sh. Pawan Kumar	Senior Asstt.	-	8219839117

List of Officers/ Official Working in the o/o SDE Water Regulation, BBMB Talwara Township

Sr. No.	Employee Name S/Sh.	Designation	Mobile Number	Address
1.	Arvinder Pal Singh Ubhi	Additional Superintending Enginner	94630-68008	House no. 10, T-6, Sector-2 Talwara
2.	Om Parkash	Sr. Assistant	94631-10749	House no.1409, U T-3, Sector-3 Talwara
3.	Dinesh Kumar	Sr. Assistant	99140-40176	House no. 960 L, T-3, Sector-1 Talwara
4.	Navdeep Kumar	L.D.C	7986733031	House no. 1155U, T-3, Sector-3 Talwara
5.	Saurabh	Junior Engineer	94781-78169	House no.1409, U T-3, Sector-3 Talwara
6.	Rajinder Pal	Workmistry	94783-59882	House no. 3 U, T-5, Sector-2 Talwara
7.	Kulvinder Kumar	Peon	9465585332	House no.1232- U t-2, Sector-2 Talwara
8.	Davinder Singh	Chowkidar	99889-17598	House no. 937 U T-3, Sector-1 Talwara
9.	Rakesh Sandhu	S.D.O.	98779-87303	H.No. 406-L, T5 , Sec. 1 Talwara
10.	Harmanpreet Singh	Junior Engineer	88473-51293	House No. 2 A Block Canal Colony Makhu
11.	Pawan Kumar	C/man	89684-20540	H.No. 966 L T3 Sector 1 Talwara
12.	Chander Bhan	Signaller	86993-05002	V.P.O Canal Colony Makhu Teh. Zira Distt. Ferozepur
13.	Pawan Kumar	Dak Runner	78376-62342	Gali No. 3 Guru Nanak Avinew Khanpur Chowk Pathankot
14.	Mintu	Safai Karamchari	62836-81219	House no. 749 L T-2, Sector-3 Talwara
15.	Santosh Kumar	Gauge Reader	98050-92580	Ward No. 5 VPO Sujanpur Tira Distt. Hamirpur
16.	Nanak Chand	Gauge Reader	70982-00009	Vill Bangher, P.O Bharolim, Teh. Jalwalamukhi, Disst. Kangra (HP) Pin:-176036
17.	Ravinder Kumar	Gauge Reader	88943-44840	Vill. Chandrot Teh. Baroh, Distt. Kangra H.P. Pin - 176037
18.	Sanjeev Kumar	Gauge Reader	82197-30167	Village Haripur Post office Haripur Teh Haripur District Kangra Himachal pardesh Near Ram

				Mandir
19.	Kehar Singh	Gauge Reader	98051-43475	Vil Kothi P.O. Koserian Teh Klola , Distt.Bilaspur (HP)Pin 174030
20.	Rama Rani	Gauge Reader	89686-09506	Vill. Gurha Khurd P.O Madhopur Lal Kothi Teh/Distt Pathankot
21.	Onkar Dev	Beldar	99147-48163	House No. 1226 u T2 Sector 1 Talwara
22.	Mohinder Singh	Beldar	91158-47769	House No. 746 U T2 Sector 3
23.	Vipan Kumar	Beldar	78886-52487	House No. 02 Opp. JK Hospital Main market Talwara
24.	Raj Kumar	Beldar	94787-40372	V.P.O Datarpur Teh. Mukerian Distt. Hoshiarpur
25.	Vijay Kumar	Beldar	98163-39346	VPO Harsi, Teh Jaisinghpur,Distt. Kangra Pin:-176091
26.	Sunil Kumar	Beldar	98172-28293	VPO Karour, Teh. Nadaun, Distt Hamirpur Pin:-177301
27.	Saleem Mohammad	Beldar	95012-78605	H.No. 665-L, T2, Sec.2, Talawara
28.	Rohit Kumar	Junior Engineer	78890-46454	H.No. 950-L, T-3, Sec. 1, Talwara
29.	Pawan Kumar	Work Mistry	70061-12646	H.No. 415-L, T-4, Sec. 3, Talwara
30.	Tavinder Kumar	Gauge Reader	62807-80327	H.No. 1246-L, T-2, Sec. 1, Talwara
31.	Surjit Kumar	Gauge Reader	62839-36732	H.No. 1265-L, T-2, Sec. 1, Talwara
32.	Naveen Kumar	Gauge Reader	98772-60097	H.No. 719-L, T-2, Sec. 1, Talwara
33.	Jung Bahadur	Gauge Reader	79862-09034	H.No. 567, T-1, Sec. 1, Talwara
34.	Ravinder Kumar	Beldar	95019-14450	H.No. 708-L, T-2, Sec. 3, Talwara
35.	Mukesh Kumar	Beldar	94174-80843	H.No. 1145-L, T-2, Sec. 1, Talwara
36.	Mohinder Singh	Beldar	94637-40757	H.No. 1345, T-1, Sec. 3, Talwara
37.	Balbir Singh	Beldar	87289-06626	H.No. 669-L, T-2, Sec. 1, Talwara
38.	Rajesh Kumar	Beldar	83600-03913	H.No. 1222-L, T-2, Sec. 1, Talwara
39.	Kushal Kumar	Beldar	88944-10709	Discharge Site Nagrota Surian
40.	Rajesh Kumar	Safai Karamchari	88476-89100	H.No.1246U T-2 sec-1 Talwara

List of Employees of Mechanical Divn.

Sr. No.	Name and Designation	Home Address	Contract No.
1.	Sh. Gaurav Lamba, Executive Engineer,	House No. 907-L/T-5 Sector-5 Talwara.	99884-27291
2.	Sh. Rajeev Kumar, Sub Divisional Officer (Gate & Gearing Sub Division)	House No. 918-L/T-3 Sector -3 Talwara.	83606-54749
3.	Sh. Satish Kumar, Sub Divisional officer, (Field Mechanical Sub Division) (Re-Employment)	House No. 908-L/T-5 Sector -3 Talwara.	76967-88996
4.	Sh. Rajeshwar Singh, Sub Divisional Officer, (Store Sub Division)	House No. 1115-L/T-3 Sector -3 Talwara.	98763-47319
5.	Sh. Ketan Sharma, ASP-II (Procurement Cell /Dual Charge Transportation Sub Division)	House No. 356 Dashmesh Nagar Hoshiarpur.	70099-06921
6.	Sh. Prem Pal, Junior Engineer (Gate & Gearing Sub Division)	House No. 1615-L/T-3 Sector -3 Talwara.	62391-37770
7.	Sh. Dhiraj Kumar, Junior Engineer (Field Mechanical Sub Division)	House No. 428-U/T-4 Sector -3 Talwara.	79734-73261
8.	Sh. Bhupinder, Junior Engineer (Workshop Sub Division)	Sandhu Mohalla VPO Hajipur Tehsil Mukerian District Hoshiarpur.	84278-30381
9.	Sh. Arun Singh, Junior Engineer (Contract Basis) (Gate & Gearing Sub Division)	House No. 413-L/T-4 Sector -3 Talwara.	80541-54220
10.	Sh. Kuldeep Singh, Junior Engineer (Contract Basis) (Field Mechanical Sub Division)	House No. 401-L/T-4 Sector -3 Talwara.	94784-56766
11.	Sh. Gaurav Rana, Junior Engineer (Contract Basis) (Store Sub Division)	House No. 419-L/T-4 Sector -3 Talwara.	94649-51682
12.	Sh. Rajinder Singh, Bus Conductor	House No. 1624-L/T-3 Sector -3 Talwara.	98729-88714

List of Employees of Township Division

Sr. No.	Name of Employee S/Shri	Designation	Contacts No.
1	Er. Vinay Kumar Kutlehria, Township Div.	Executive Engineer	9815954877
2.	Er. Dheeraj Kumar	Sub Divisional Officer, Estate Sub Division	7888858697
3	Er. Rajesh Kumar Sharma	Sub Divisional Officer Enforcement Sub Divn.	8708410080
4	Er. Vinod Kumar	Junior Engineer	9217976944
5.	Er. Jatin Kumar	Junior Engineer	9478359597
6.	Er. Baljit Singh	Junior Engineer	8556850578
7.	Sh Parveen Kumar	Junior Assistant	9857225786
8.	Er. Raju	Junior Engineer	9467216179
9.	Er. Gulshan Kumar	Junior Engineer	8968956036



ANNEXURE-XXI**LIST OF MACHINERY WITH XEN BHAKRA MECHANICAL DIVISION,
NANGAL**

Sr. No.	Description	Qty	Present condition	Remarks
1.	Dozer (1986) (2002)	2		
	i) Chain Dozer A-62 A-64	1	Working	
	ii) Wheel Dozer A-63(1989)		-do-	
2.	Loaders 07Q (1989) 06P (1975)	2	-do-	
3.	Excavator cum loader C73 JCB (2003)	1	-do-	
4.	Hydraulic excavator C72(1998)	1	-do-	
5.	Dragline C68(1987)	1	-do-	
6.	Mobile Cranes C521(1994) C26(1971)	2	-do-	
7.	Crawler Crane C32 Power	1	-do-	
8.	Motor Grader J2 & J 6 (1952)	2	1 No. working	
9.	Trailor R232	1	Working	
10.	Water Sprinkler R223(1994)	1	Working	

The machinery is generally stationed at El-1400 Bhakra Dam when not in use or for repair & maintenance work. Quarter wise the machinery is deployed/ stationed at work site for which job order is received by Sub Division Officer, Field.

Note: List machinery received from SE, NMC, BBMB, Nangal.

ANNEXURE-XXII

LIST OF MACHINERY / EQUIPMENTS WITH BSL PROJECT SUNDERNAGAR

Sr. No.	Nomenclature of Equipment	Total number of Remarks machinery
<hr/>		
a)	Heavy Earthmoving Equipments	
1.	L & T Poclain shovel	3 No
2.	Caterpillar wheel dozer	1 No
3.	Crawler Tractor	2 No
4.	Motor grader	1 No
5.	Excavator Point end loader	2 No
b)	Tunneling Equipment	
1.	G.D. Grout Pump	2 No
c)	Construction Equipment	
1.	Drilling machine	5 No
2.	Cranes	3 No
3.	Pumps	45 No. V.T. 5 Pumps, SS Type Pump, Submersible Pump, Bore Hole Pump & Sump Pumps etc.
4.	Air compressor	4 No
5.	Generating set	3 No
6.	Concrete mixer	1 No
(d)		
1.	TMB Tipper	9 No
2.	Water sprinkler	1 No
3.	Road Roller	1 No
Note the above machinery will be available. If free from repair / maintenance work		

ANNEXURE-XXIII

MECHANICAL DIVISION BBMB, TALWARA TOWNSHIP

List of Machinery / Equipment's with Beas Dam, BBMB Talwara

Sr. No	Name of Machinery	No. of Machinery	Remarks
1.	JCB CB-60	1	Working Condition
2.	Pocklain CB-59	1	-do-
3.	Wheal Dozer AB-129	1	-do-
4.	Derrick Crane	1	-do-
5.	CB-49 Crane	1	Major Break Down categorized—CII
6.	Gourav Motor Boat	1	Working Condition
7.	Barrage	1	-do-
8.	Tug UL-2 & UI-4	1	Repair of Tug Boat UL-2 has been done and is to be launched in reservoir
9.	Tipper RB-178	5	Working Condition
10.	Tipper RB-162		Brake Down
11.	Tipper RB-163		-do-
12.	Tipper RB-164		-do-
13.	Tipper RB-165		-do-
14.	Tipper RB-160	1	-do-
15.	Tipper RB-161	1	-do-
16.	V.T. Pump 200 H.P.	5	4 No. pumps in working condition and installed in pumping station and 1 No. pump Break Down.
17.	V.T. Pump 125 H.P.	1	-do-
18.	Centrifugal pumps 100 H.P.	4	2 No. pumps at pumping station & 2 No. pumps in workshop.
19.	Centrifugal pumps 20 H.P.	2	Working condition
20.	Centrifugal pumps 5 H.P.	2	-do-
21.	Air Compressors (Electric)	3	-do-
22.	Air Compressors (Portable)	1	-do-
23.	Centrifugal pumps 45 H.P.	4	-do-
24.	Centrifugal pumps 7 H.P.	2	-do-
25.	Welding Set	4	-do-

ANNEXURE-XXIV**LIST OF CONTRACTORS**

Sr. No.	Name & address	Contact No.
1.	The Shivalik Co-op. L&C Society Ltd.Vill. Bheora. Po. Rangilpur. Distt. Ropar.	9818115100
2.	Sh. Vijay Singh Contractor, Village &P.O. Changerwan. P.O. Talwara, The. Mukerian, Hoshiarpur (Pb)	9417134399
3.	Sh. Ranjit Singh Randhawa, Contractor. Village Bararowal, P.O. Safdarpur. Dasuya.	9463708641
4.	M/S Eight Arms, near Nav Bharat Transport Company Sarna, Pathankot	9988656464
5.	M/S Jai Maa Construction Co.T-3/242 Shahpurkandi RSD Jugiul PTK.	9216363530
6.	M/S Liak Ahmad (Prop) Sh. Akhil Ahmad R/o Thermal By-Pass Assandah Road Near Devi Lal Chok Panipat Haryana.	9541484866 9017501023
7.	The Chetanpura Co-op. L&C Society Ltd.Vill. Chetanpura.Teh. Ajnala Distt. Amritsar.	9855551681

LIST OF FIRMS

1. M/s Gammon India Ltd Gammon House. Veer Savarkar Marg Prabhadeve
Mumbai- 4000250 022-56614000
2. M/s Maducon Projects Ltd D-27. East of Kailash New Delhi-110065 Tel. 011-
26425507/26425820
3. M/s Malana Power Company Ltd (MPCL) Bhilwara Towers. A-12.
Sector-01. Noida -201301, NCR Delhi Tel. 0120-2536784. 4390300
4. M/s Larsen & Toubro Ltd, ECC Division. Mount Poonamalle Road.
Post box No979. Manapakkam. Chennai-600089 Tel.No) 04422526000/25280000
5. M/s GMR Energy Ltd. J-3 Dhanwandeep Building. 6-Jantar Mantar
Road, New Delhi. Tel. 011-23342701
6. AFCONS Infrastructure Ltd, 16 Shah Industrial Estate, Veera Desai
Road, Azad Nagar, Andheri West, Mumbai -400053, Tel. 022-66773100
7. M/s Essar Power Ltd, (EPOL), Essar House, P.O.7495, Mahalaxmi,
Mumbai- 400034 Tel. 022-66601100/24950606
8. M/s Tata Power Company Limited, Business Development Department, A-Block
Corporate Centre, 34-Sant Tukaram Road, Carnac Bandhar, Mumbai-9, Tel. 022-
66658811
9. M/s Torrent Power AEC Ltd. (TPAL), Jayesh Desai, Torrent Pvt. Ltd Torrent House,
Opp. Ashram Road, Ahmedabad-380009 Tel. 079-26585090
10. M/s Reliance Energy Ltd, Reliance Energy Centre Santacruz (E) Mumbai- 400055.
Tel. 022-30099526.
11. M/s Kudos Agrohole Ltd, 1620. Sector 18-D, Chandigarh Tel. 0172-2784219.
12. M/s Jai Parkesh Associate Ltd. JA House, 63. Besant Lok, Vasant Vihar, New
Delhi Tel. 011-26141540.
13. M/s HEG Ltd Bhilwara Towers, A-12. Sector -01. Noida -201301. NCR Delhi. Tel.
0120-2541810.
14. M/s Deccan Cement Ltd 3rd Floor, Deccan Chambers, 6-3-666/B. Somajiguda
Hyderabad- 5000082
15. M/s Kineta Power Pvt Ltd. 40, Ravi Shankar Shukla. New Delhi- 01. Tel.011
23782633.

ANNEXURE-XXVI
List Of Offices To Be Informed Of Flood Message/Warning

S. No	Name of Office	Contact No.
1.	Flood Control Room, Civil Secretariat Chandigarh	0172-2749901
2.	Financial Commissioner, Revenue, Punjab Chandigarh	0172-27443854
3.	Chief Engineer, Drainage, Punjab, Chandigarh.	0172-2549635
4.	Chief Engineer, Canals, Punjab, Chandigarh.	0172-2549130
5.	Central Flood Control Room, Sinchai Bhawan Sector-18, Chandigarh.	0172-2724552
6.	Deputy Commissioner, Hoshiarpur,	01882-220301-O 01882-220302-R
7.	Executive Engineer, Shah Nehar Head Works Divn, Talwara	01883-236044-O 01883- 236184-R
8.	Junior Engineer, Naushehra Mirthal, (via Xen, GPR)	01874-220840
9.	Commissioner, Jalandhar Division Jalandhar	0181-2224549-O 0181-2459661-R
10.	Commissioner, Patiala Division Patiala	0-2311324-O 0-2212052-R
11.	Commissioner, Faridkot Division Faridkot	01639-250009-O 01639-253435-R
12.	Commissioner, Ferozepur Division Ferozepur	01632-44004-O 01632-44005-R
13.	Deputy Commissioner, Jalandhar.	0181-2224783-O 0181-2459664-R
14.	Deputy Commissioner, Gurdaspur.	01874-247500-O 01874-224501-R
15.	Deputy Commissioner, Amritsar.	01883-2226161-O 01883-2226162-R
16.	Deputy Commissioner, Kapurthala.	01822-233777-O 01822-233780-R
17.	Deputy Commissioner, Ferozepur	01632-244008
18.	Deputy Commissioner, Faridkot	01639-251051-O 01639-251000-R
19.	Deputy Commissioner, Moga	01636-234400-O 01636-225401-R
20.	Deputy Commissioner, Tarn Taran.	01852-224101-O 01852-222751-R
21.	Sub Division Officer, (Civil), Mukerian.	01883-244441-O 01883-244442-R
22.	Sub Division Officer, (Civil), Dasuya.	01883-285024

S.No	Name of Office	Contact No.
23.	Superintending Engineer, U B D C Circle, Amritsar.	0183-2566252
24.	Superintending Engineer Drainage Circle, Amritsar.	0183-2229954
25.	Superintending Engineer, Drainage Circle, Jalandhar.	0181-2254633
26.	Superintending Engineer, Ferozepur Canal Circle, Ferozepur.	01632-244907 01632-244697
27.	Superintending Engineer, Drainage Circle, Ferozepur.	01632-245188
28.	Executive Engineer, Phagwara Drainage Division Jalandhar	0181-2254297
29.	Executive Engineer, Eastern Division Ferozepur	01632-246215
30.	Executive Engineer, Harike Division Ferozepur	01632-246210
31.	Member, Irrigation, BBMB, Sector 19-B, Chandigarh	0172-2548931 0172-2661499
32.	Secretary, BBMB Sector 19-B Chandigarh	0172-5011759 0172-2661912
33.	Chief Engineer, Beas Dam BBMB Talwara Township	01883-237131-O 01883-237133- R
34.	Director, Water Regulation, BBMB, Nangal Township	01887-223758-O 01887-223026-R
35.	Tehsildar, Dasuya, Punjab	01883-285024
36.	Tehsildar, Mukerian, Punjab	01883-244813
37.	Flood Control Room, o/o District Revenue Officer, Hoshiarpur	01882-220412
38.	Flood Control Room o/o Tehsildar, Mukerian	01883-244813
39.	Executive Engineer, Discharge Division, (I.B.), SCO No. 32, Phase No. 1 S.A.S. Nagar, Mohali	0172-2225597
40.	Executive Engineer, Drainage Division, Hoshiarpur	01882-252733
41.	Deputy Commissioner Kangra at Dharmshala (H.P.)	01892-222103-O 01892-224950-R
42.	Sub Divisional Officer (Civil) Nurpur, (H.P.)	01893-220024
43.	Sub Divisional Officer (Civil), Dehragopipur (H.P.)	01970-233102
44.	Sub Divisional Officer (Civil), Jawali, (H.P.)	01893-264310
45.	Tehsildar, Indora, (H.P.)	01893-241248
46.	Tehsildar, Fatehpur, (H.P.)	01893-256614
47.	Executive Engineer, Shah Nehar, Division, Sansarpur Terrace, (H.P.)	01970-256469
48.	Executive Engineer, Shah Nehar, Division, Badukhar, (H.P.)	01893-257472

ANNEXURE-XXVII**List of Persons deployed at discharge sites - U/S & D/S of Pong Dam of R.M.
Division, BBMB Talwara**

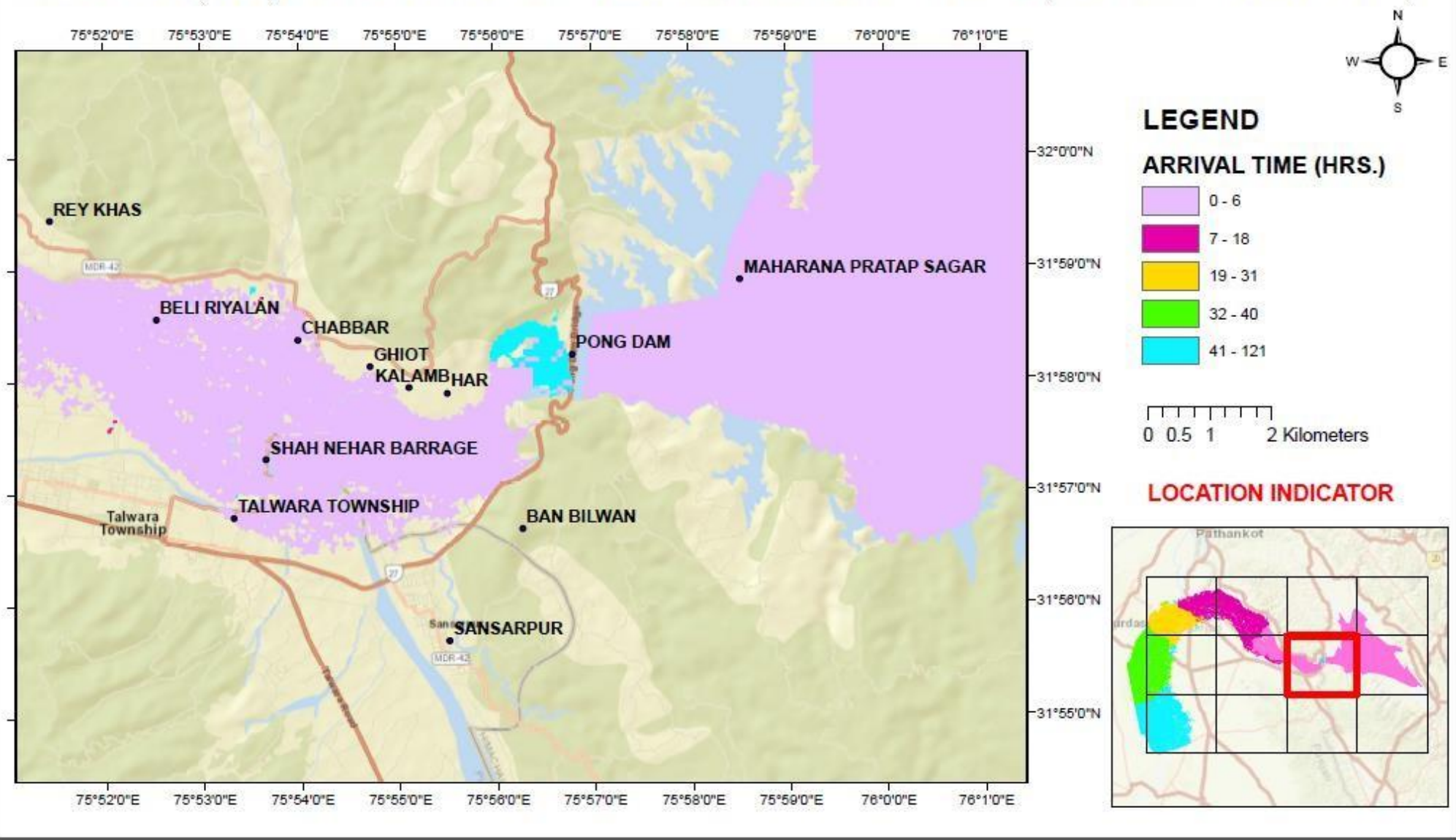
Sr. No.	Name Of Employees S/Shri	Designation	Discharge Site	Contact No.
1	Sethi Singh	S.Obs.	Harsar	98824-02412
2	Moti Lal	ALA	Dehra Gopipur	86268-11248
3	Satish Kumar	ALA	Dada Siba	94183-30722
4	Ram Krishan	Beldar	Nagrota Surian	9805242329
5	Bidhi Chand	Beldar	Jawali	9805162715

ANNEXURE-XXVIII

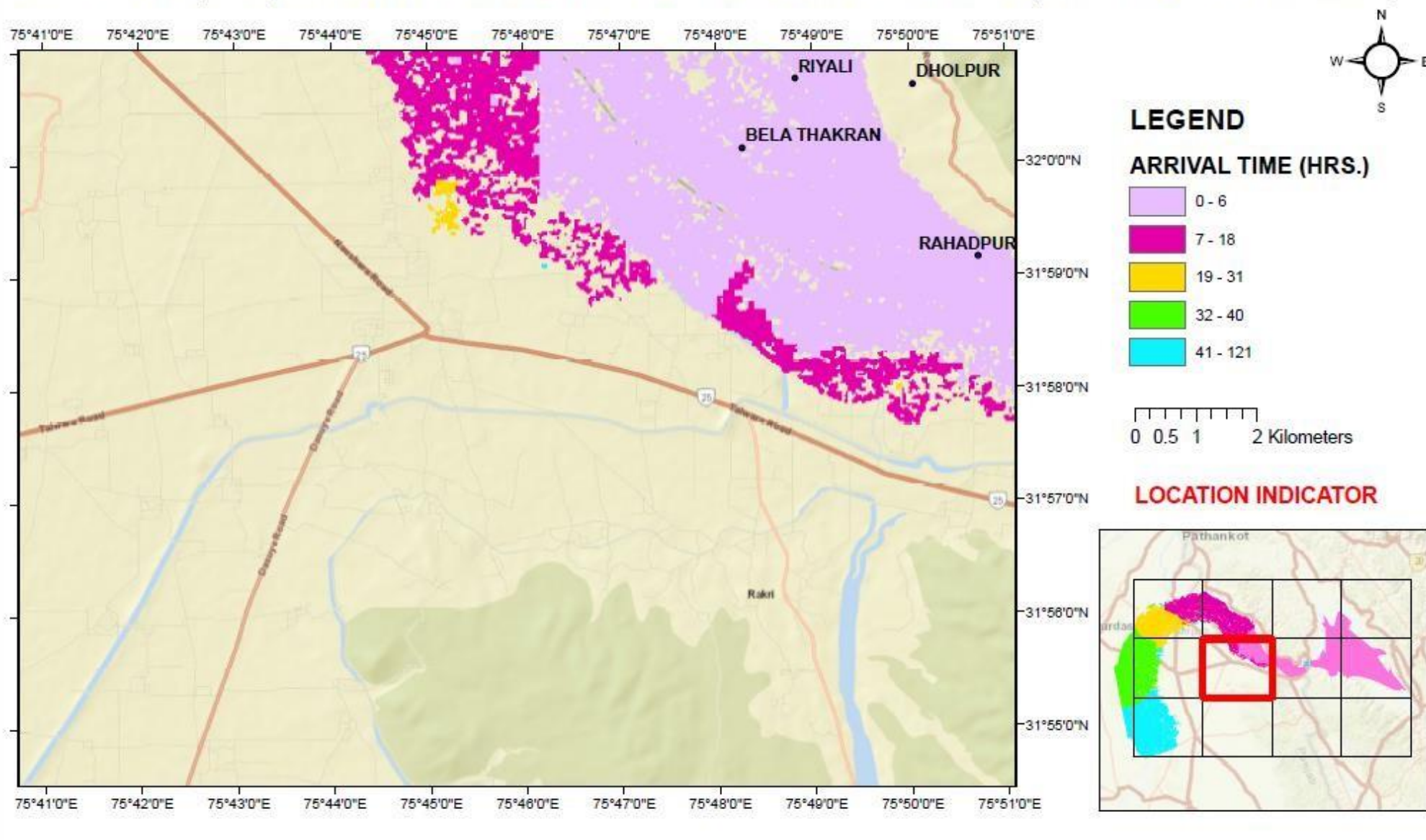
**LIST OF ALTERNATIVE CONTACTS OF PERSONS TO BE NOTIFIED
AS PER N. F.C. (Notification Flow Chart)**

Sr. No.	Person to be Notified	Alternative Contact
1.	SDO Pong Dam Sub Division	SDO SST Sub Division, Talwara - 9501114327
2.	Xen Pong Dam Division	SDO PD/Sub Division, Talwara- 7888513102
3.	XEN, Electrical Division	SDO Elect. & Accts. Sub Division Talwara 9729724767
4.	Xen Township Division	SDO, Estate Sub Division Talwara 7888858697
5.	Xen Mechanical Division	ASP-I -9876347319
6.	Xen, Mechanical Division	SDO, Gates & Gearing Sub Division Talwara -8360654749
7.	Xen, RM Division	SDO, Land Dispute Sub Division Talwara -8591822997
8.	SDE, Water Regulation Division	ADE, Water Regulation Sub Division Talwara -9877987303
9.	Director, Water Regulation Nangal	SDE, Water Regulation Talwara 9417201136
10.	SE/HQ, Beas Dam	SE/Pong Dam Circle 8264925934
11.	SE/Pong Dam Circle	SE/Talwara Circle- 9888760691
12.	SE/Talwara Circle	Xen Township Divn. 9815954877
13.	SE/PPH Circle	RE/PPH Circle 9465762061
14.	C.E. Beas Dam Talwara	SE/HQ, Beas Dam Talwara 9417169367
15.	C.E. Bhakra Dam Nangal	SE/HQ, Bh. / Dam Nangal 01887223164
16.	C.E. BSL, Sunder Nagar	SE/HQ, BSL, S/ Nagar 019072-62730
17.	D.C. Hoshiarpur	ADC, Hoshiarpur 01882-220306-07
18.	SSP Hoshiarpur	DSP, Hoshiarpur 01882-247504
19.	Secy. Irrigation BBMB Chandigarh	Dy. Secy. Irrigation BBMB Chandigarh 0172-5011767
20.	Member Irrigation BBMB Chandigarh	Member. Power BBMB Chandigarh 0172-5011755
21.	Chairman BBMB Chandigarh	Member. Irrigation BBMB Chandigarh 0172-5011752-53

ARRIVAL TIME (MAX.) OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)



ARRIVAL TIME (MAX.) OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)

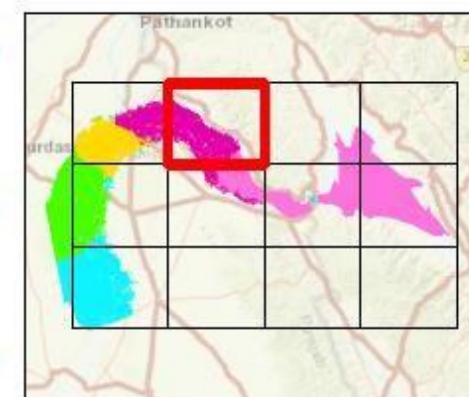




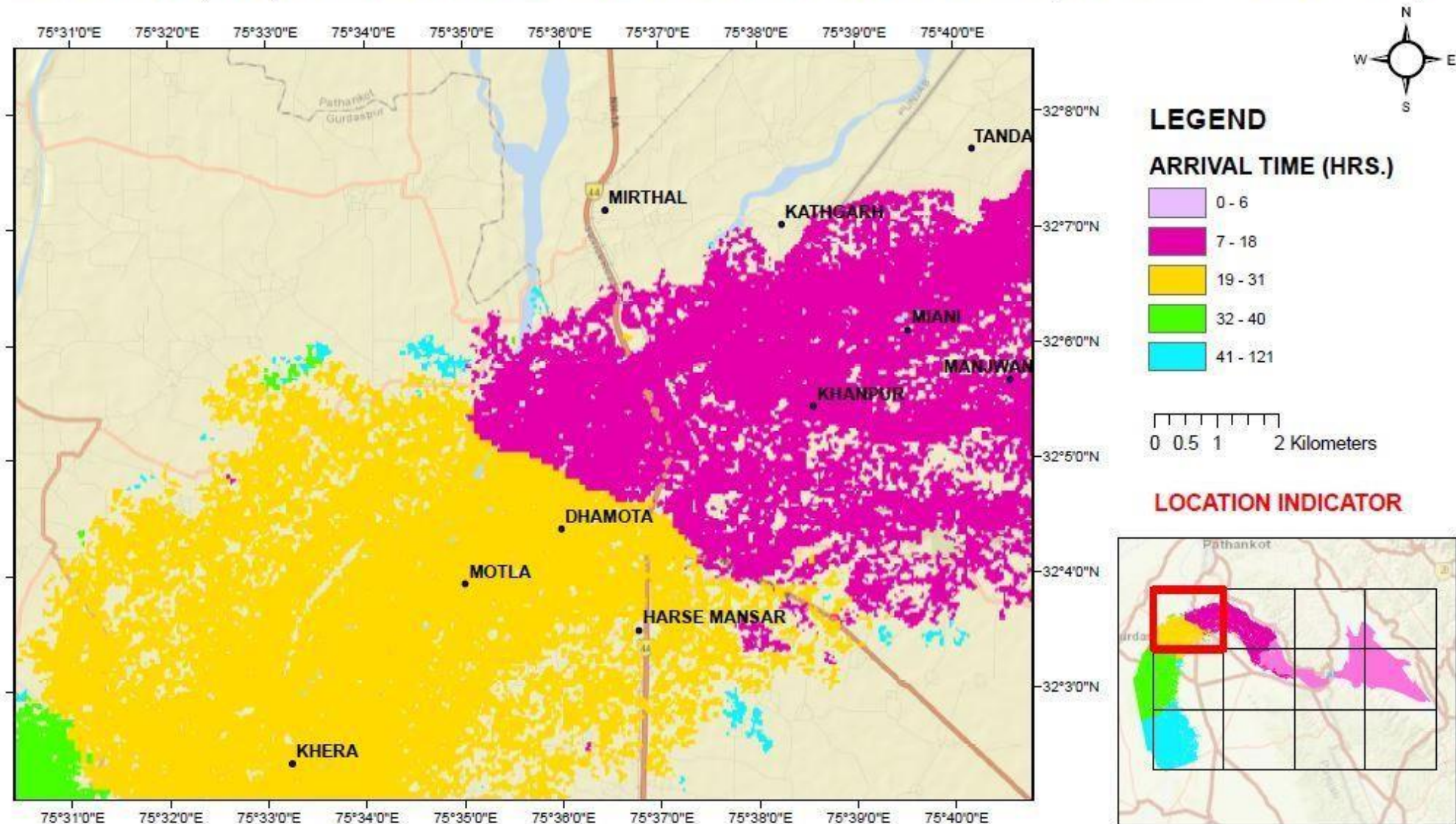
ARRIVAL TIME (HRS.)



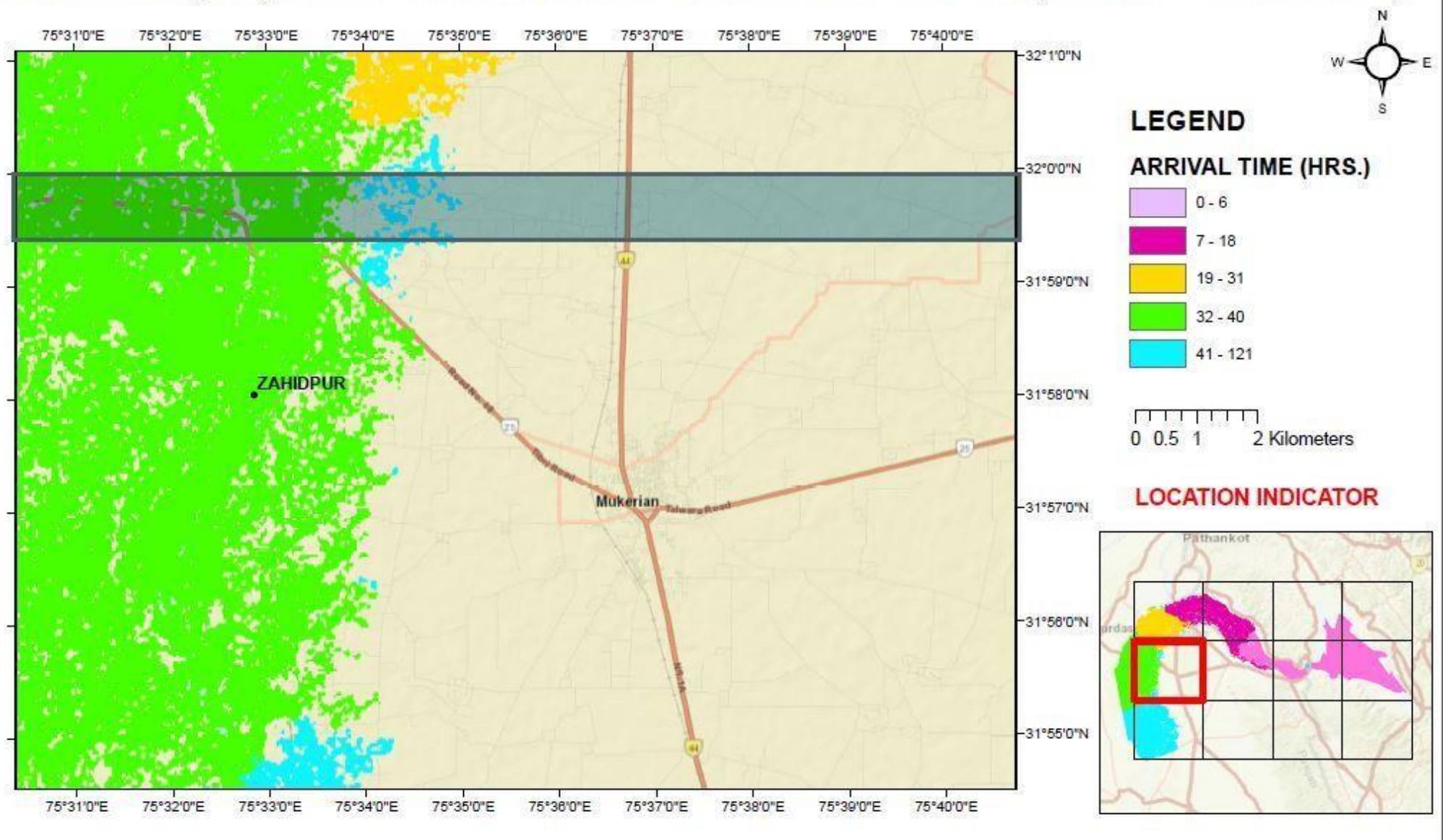
LOCATION INDICATOR



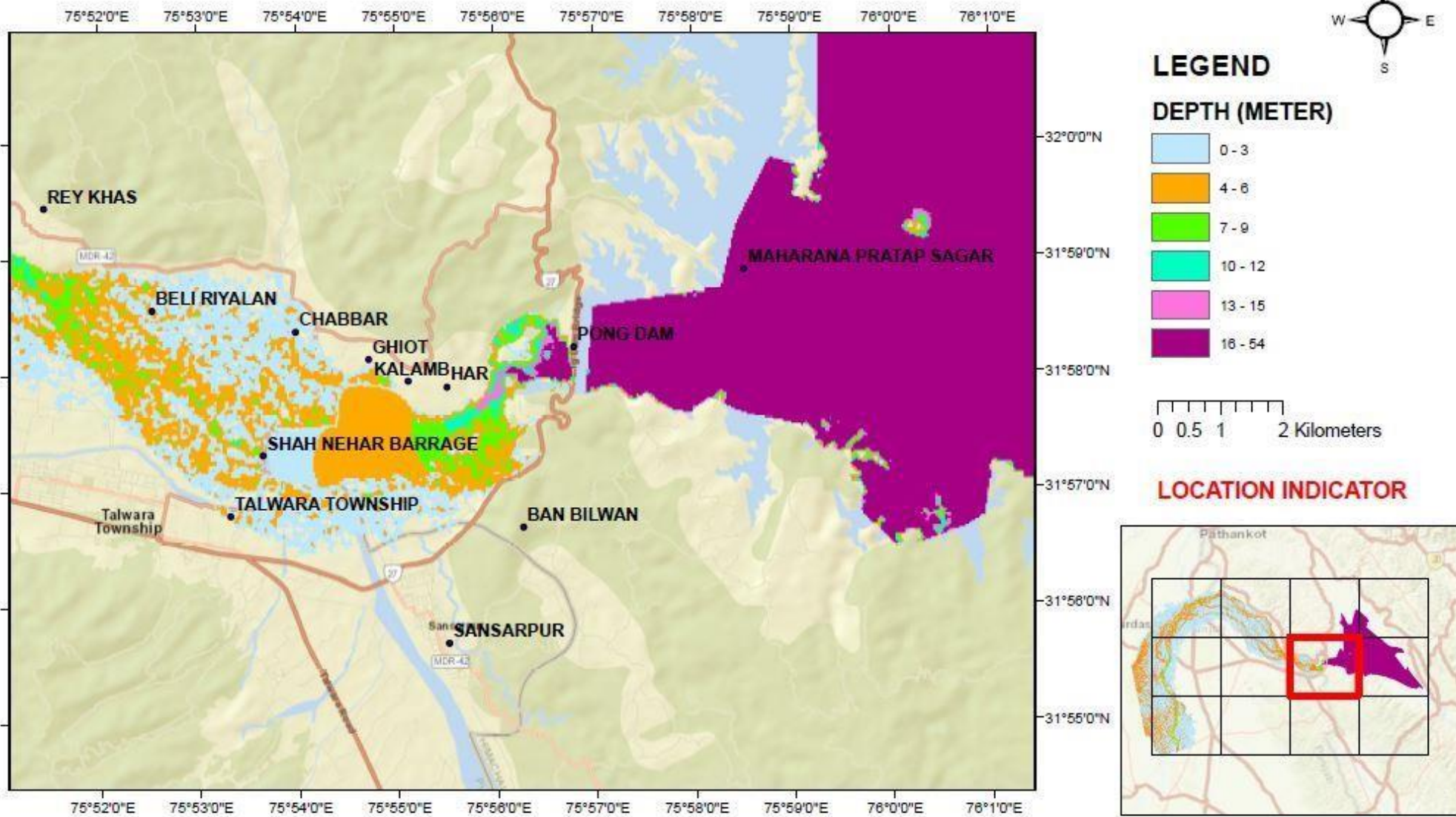
ARRIVAL TIME (MAX.) OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)



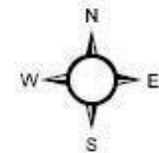
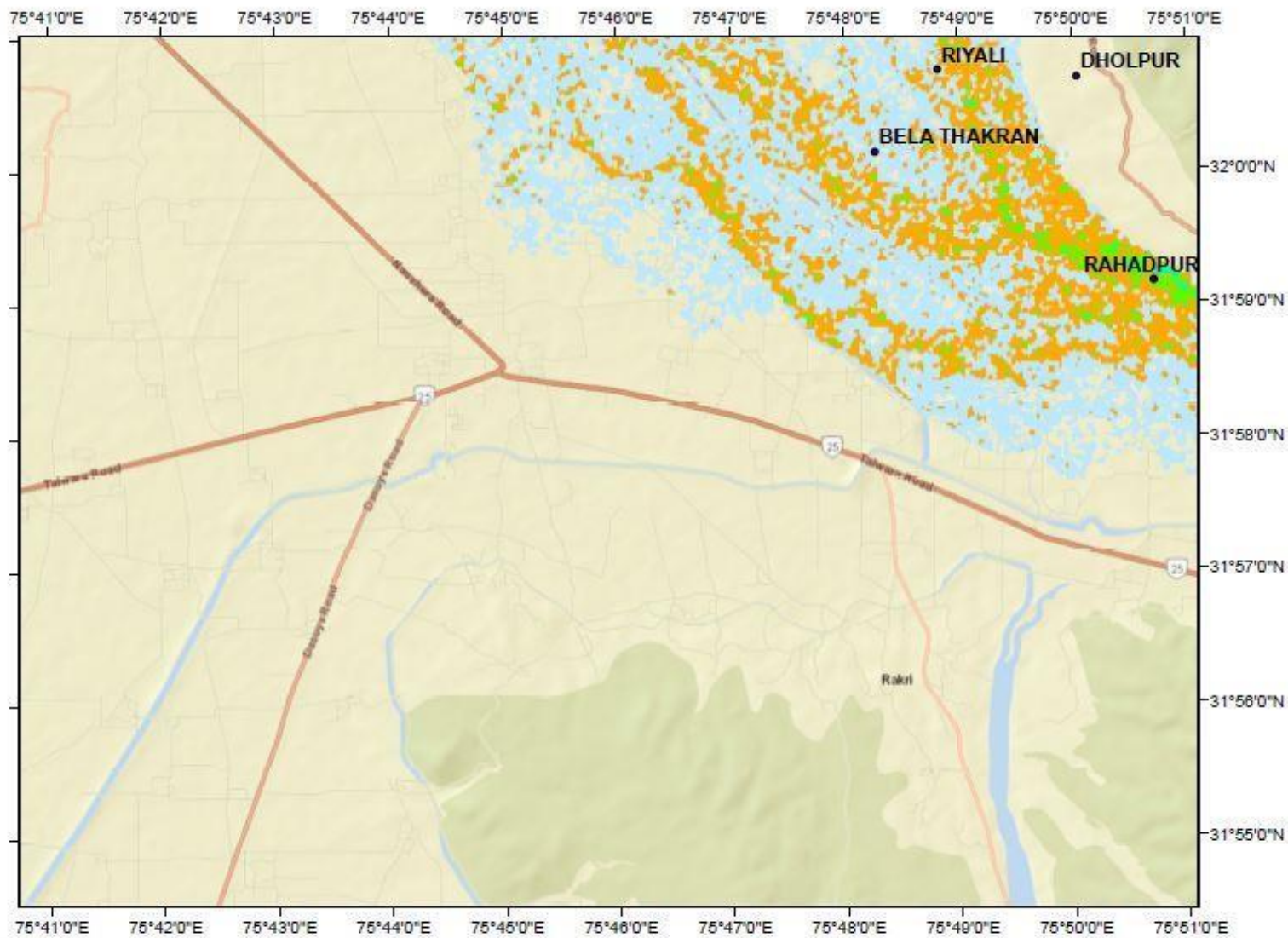
ARRIVAL TIME (MAX.) OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)



DEPTH OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)

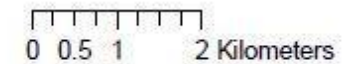
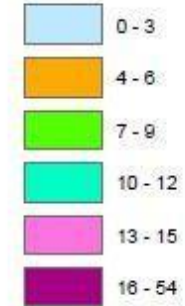


DEPTH OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)

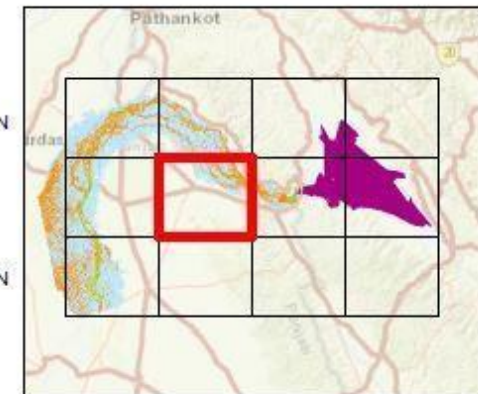


LEGEND

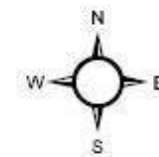
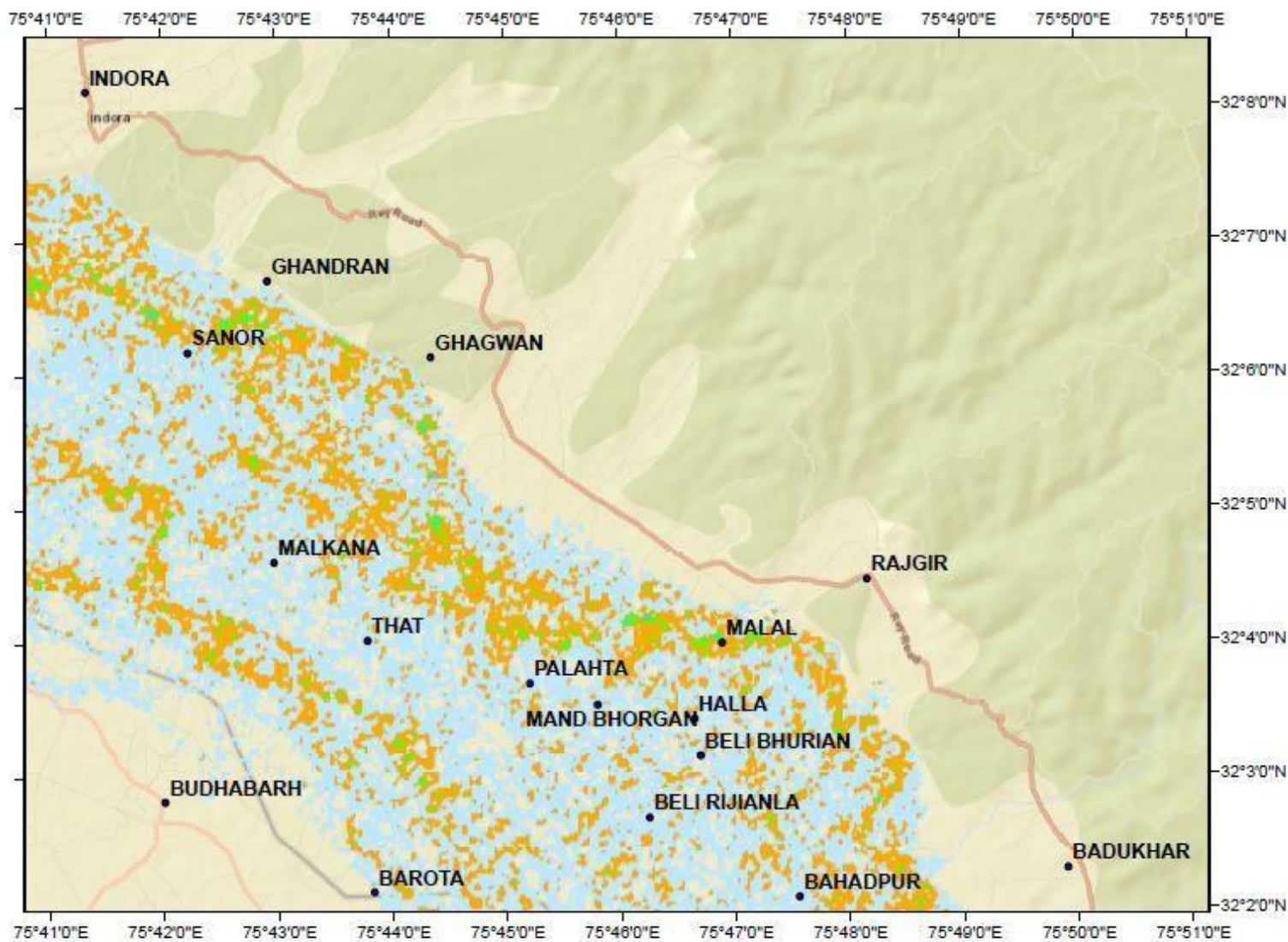
DEPTH (METER)



LOCATION INDICATOR

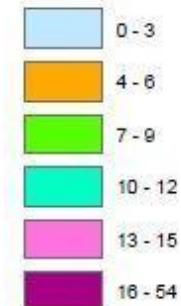


DEPTH OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)

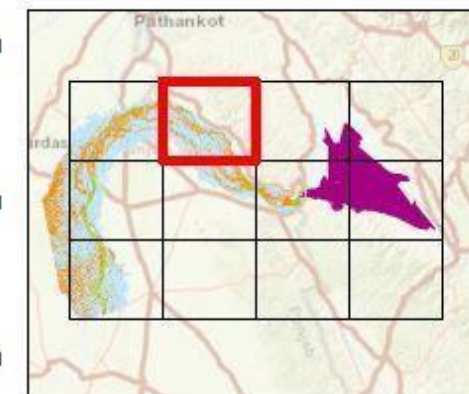


LEGEND

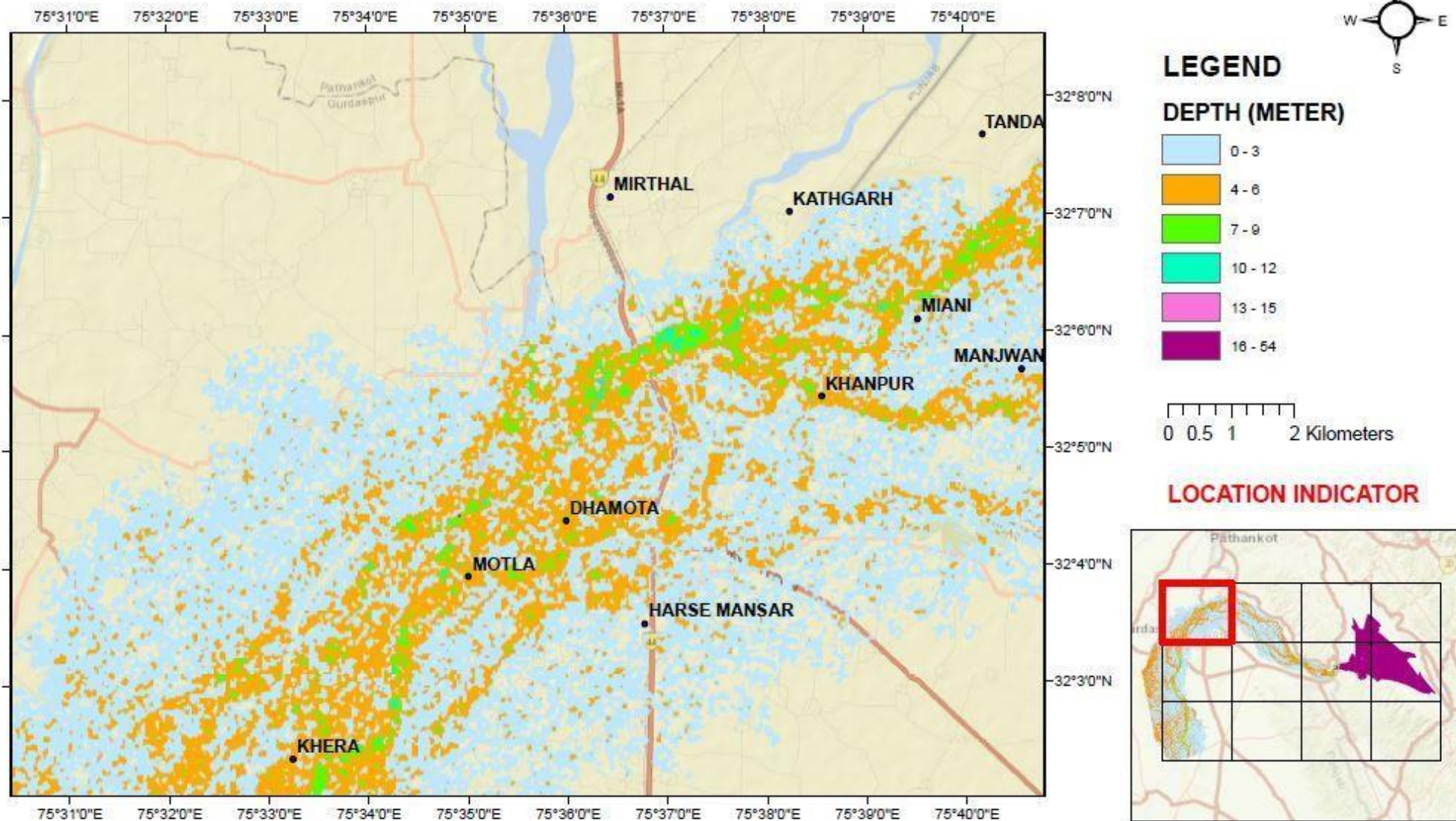
DEPTH (METER)



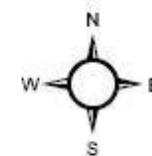
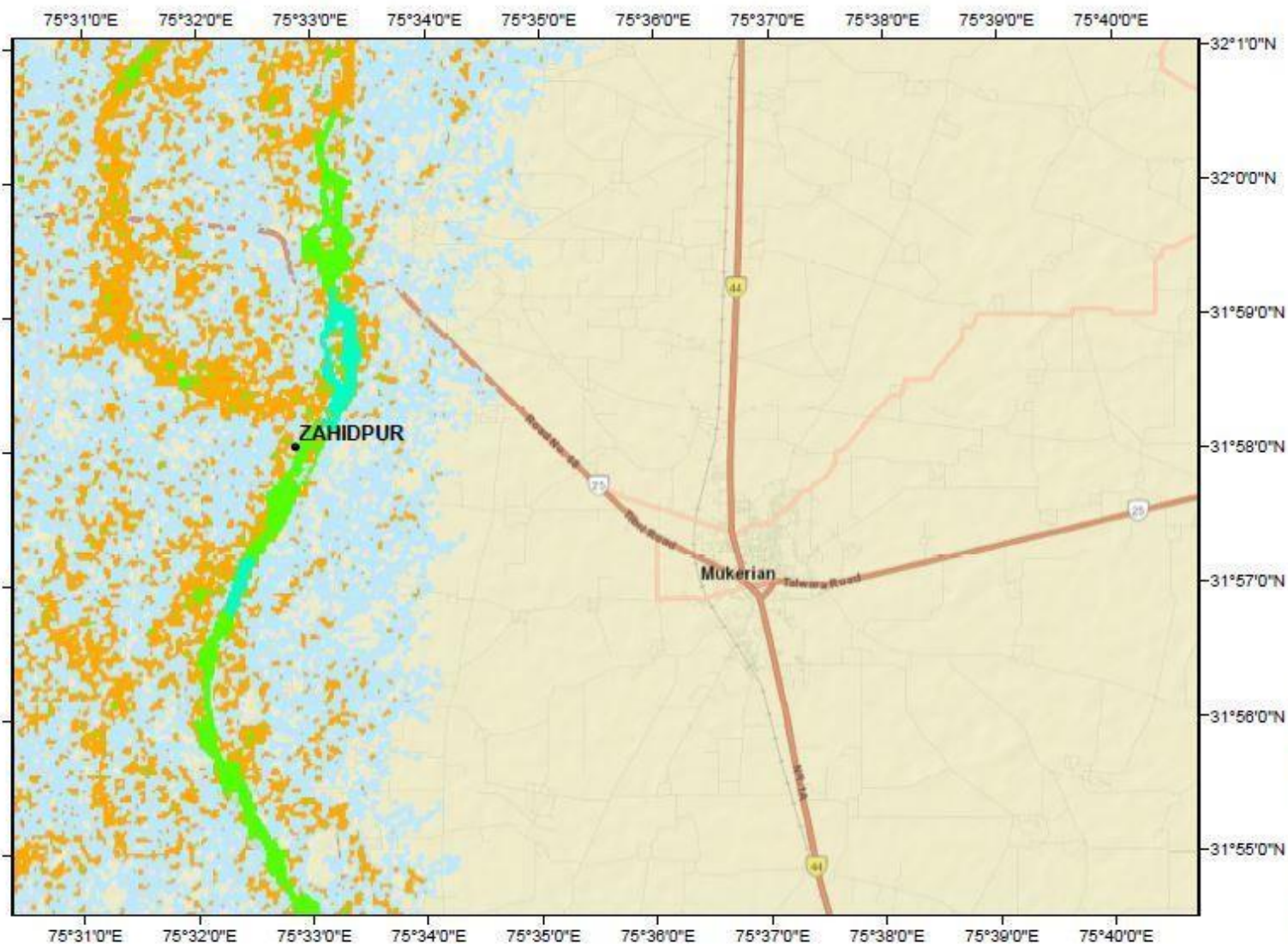
LOCATION INDICATOR



DEPTH OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)

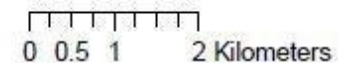
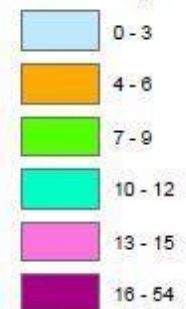


DEPTH OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)

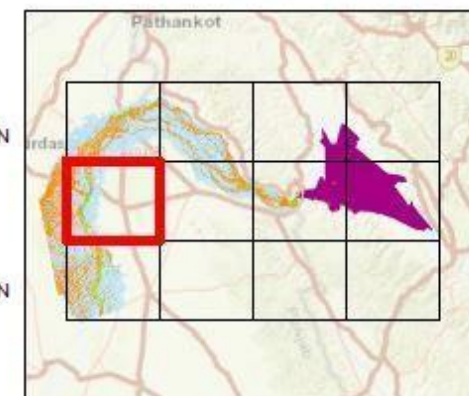


LEGEND

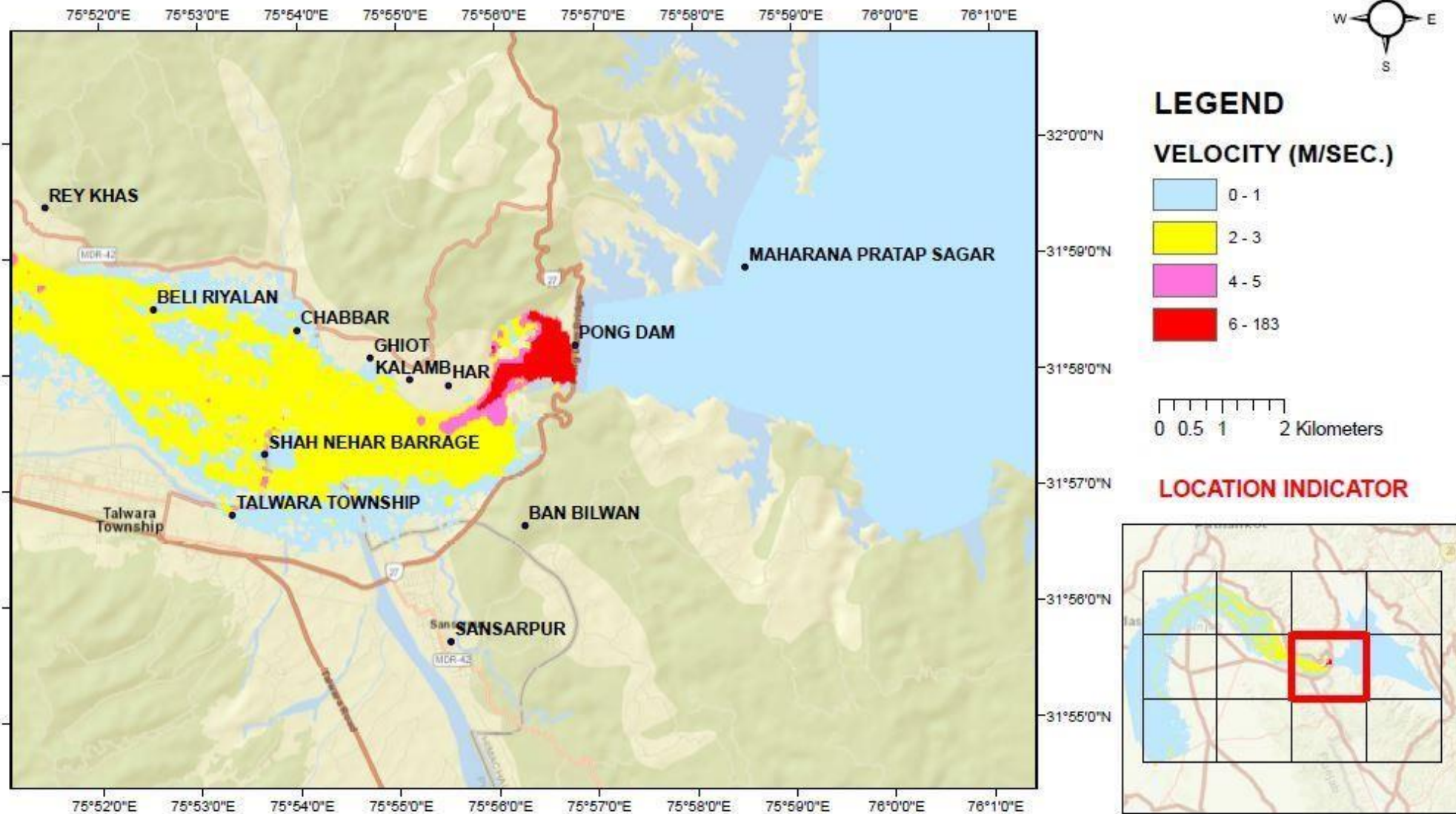
DEPTH (METER)



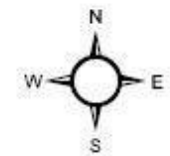
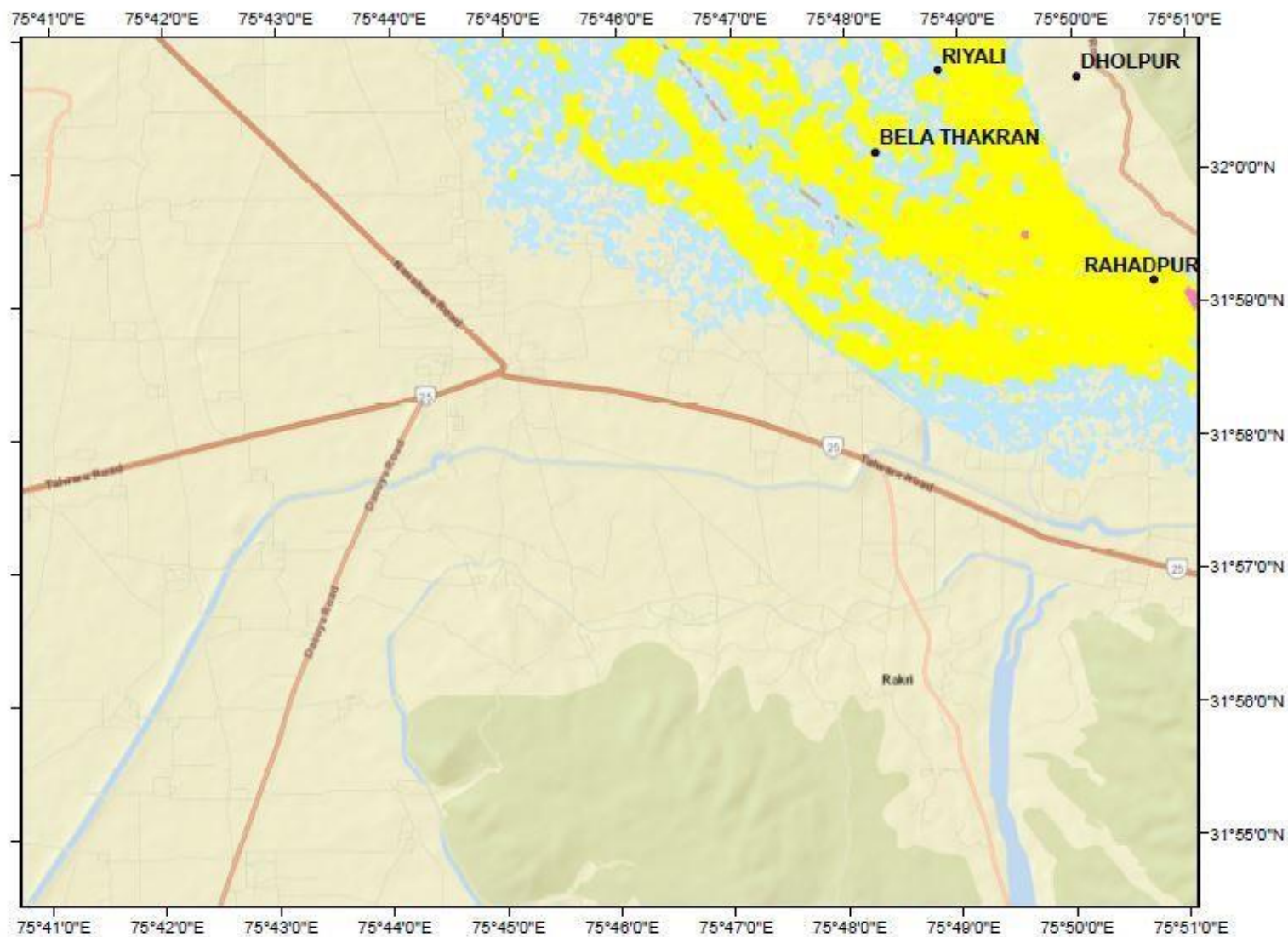
LOCATION INDICATOR



VELOCITY OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)

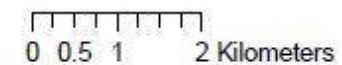
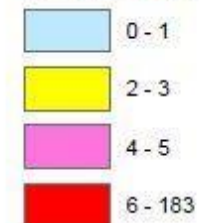


VELOCITY OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)

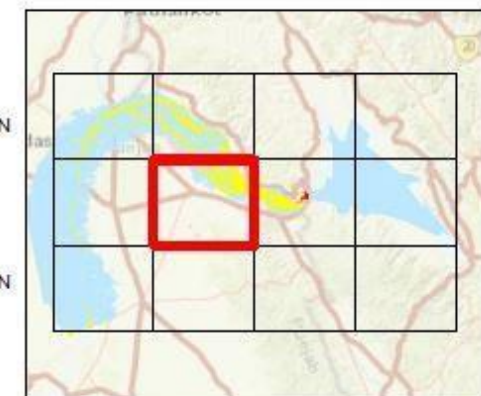


LEGEND

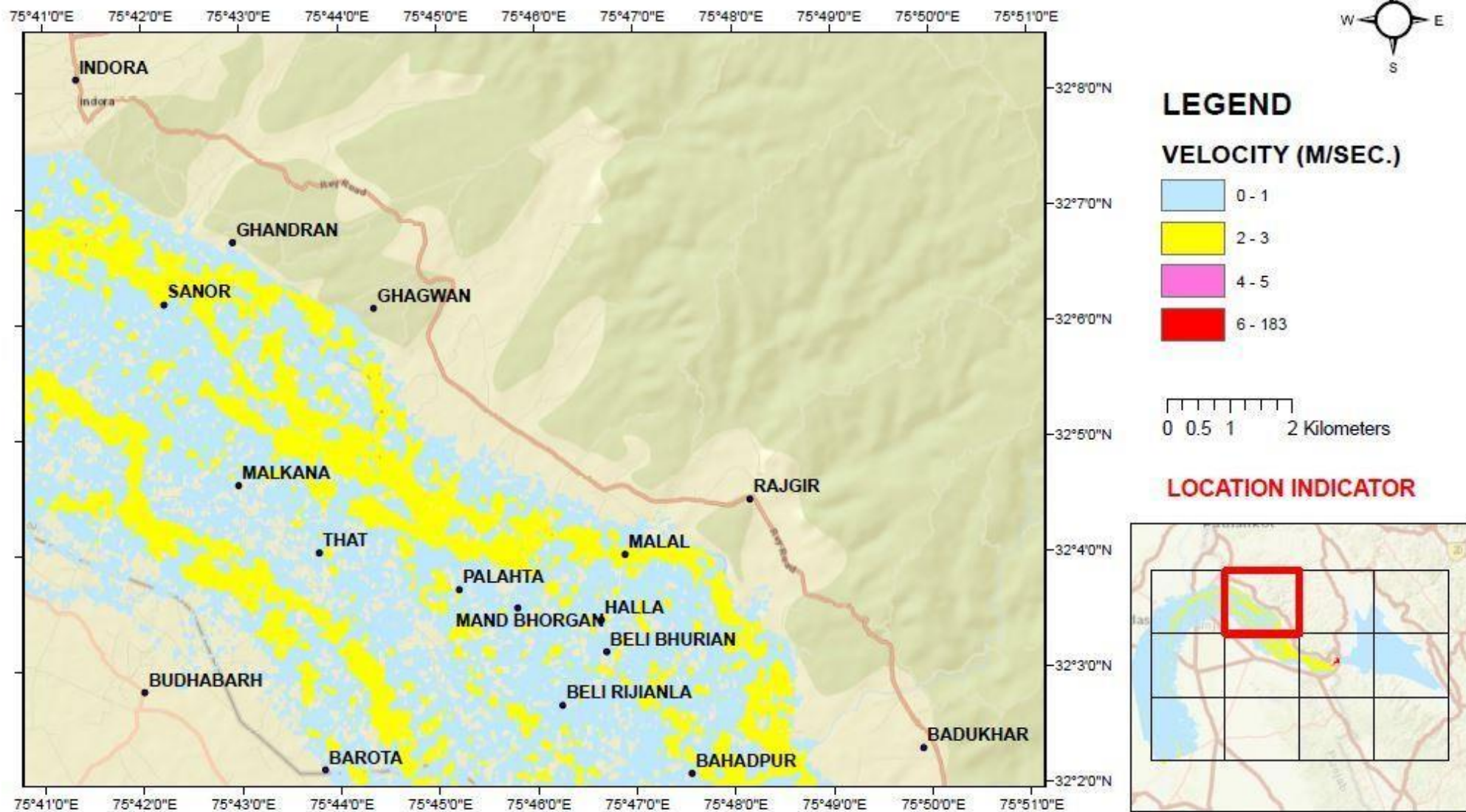
VELOCITY (M/SEC.)



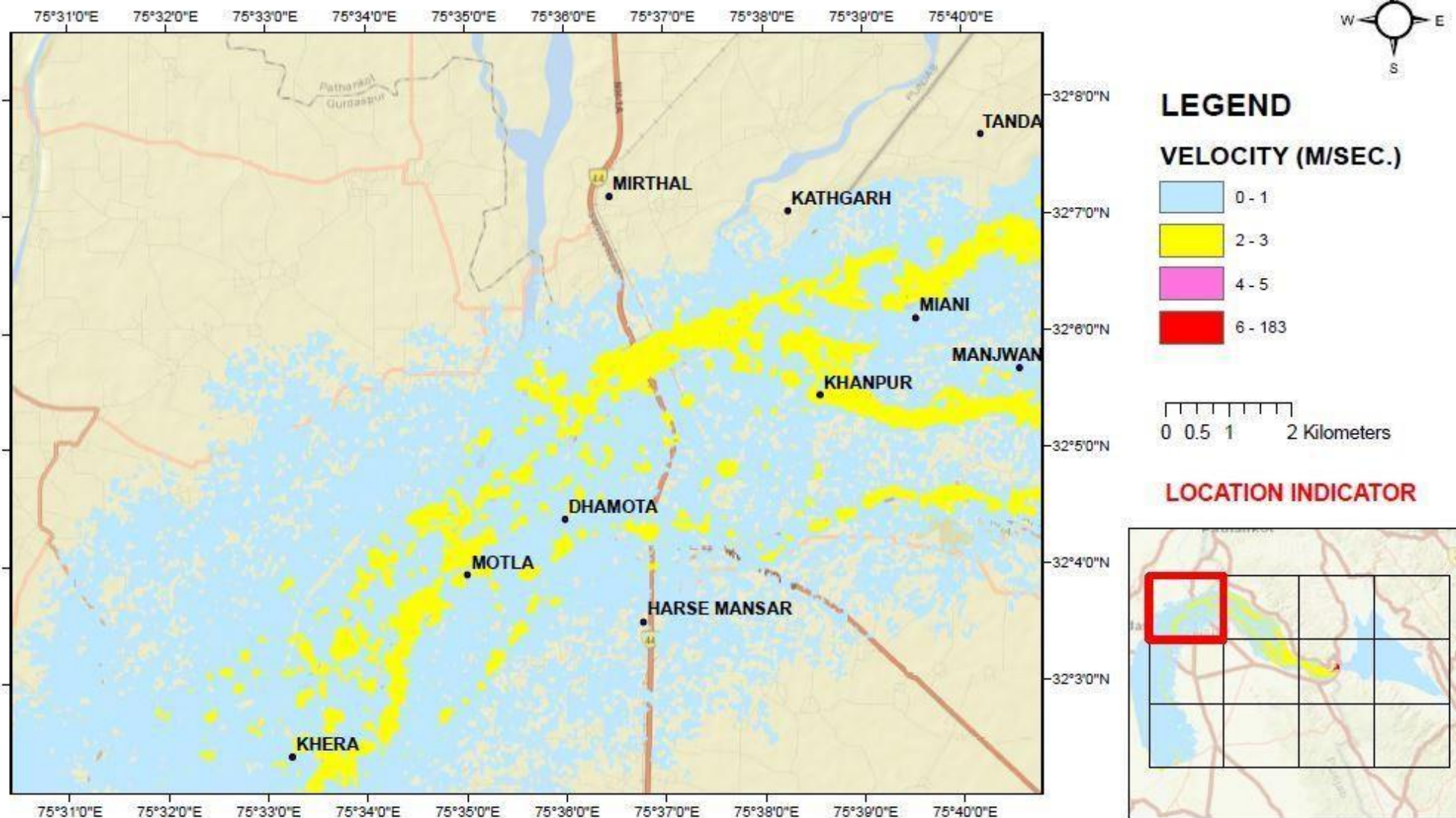
LOCATION INDICATOR



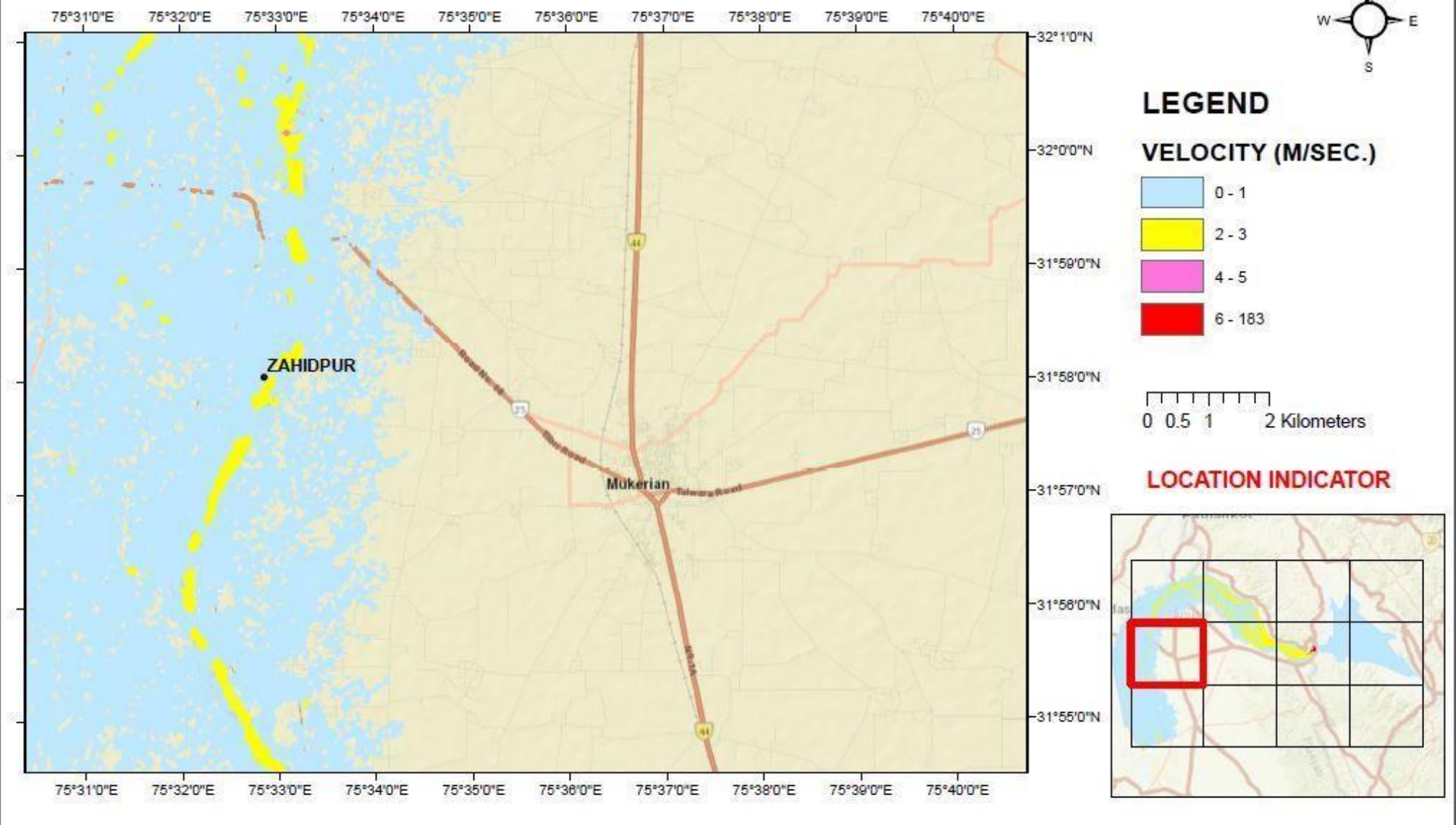
VELOCITY OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)



VELOCITY OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)



VELOCITY OF WATER FLOW DUE TO PONG DAM SPILLWAY OPERATION (DISCHARGE- 2 LAKH CUSEC)



List of NGO

Sr. No.	Name and Address of NGO	Name of Member	Mobile No.	Remarks
1.	Pratigya- EK Nayi Soch, Talwara Township. Regd. NGO (290 of 2021- 22)	Sh. Shivam Bakshi	7087903044 9803444433 9417666867	-
2.	Bharat Vikas Parishad Subash Nagar, Talwara Township	Sh. J.B. Verma	9417388484	-
3.	Manav Sewa Samiti, Main Market Talwara Township.	Vidhya Sagar	9417006308	-

List of NDRF & SDRF

- | | |
|--|-------------------------------------|
| 1. NDRF Nurpur Control Room | 01893-292478 (O)
94185-94911 (M) |
| 2. SDRF Dharamshala
Dy. SP Sh. Sunil Rana | 86288-22642 (M) |

CIVIL DEFENCE (HOME-GUARD)

Civil Defence (Home-Guard Dharamshala)	01892-223224
--	--------------