Standard Operating Procedure

Department of Drinking Water and Sanitation
Dehradun, Uttrakhand

उत्तराखण्ड राज्य

Contents

1. Context

Drinking water and sanitation are amongst most affected sectors during the disaster. Uttarakhand is more sensitive towards various natural disasters like heavy rains, cloudbursts, landslides etc. The developmental activities are further aggravating their vulnerability. In such a situation, there is a need to make actions more effective that can be undertaken during the disaster to reduce the disaster impact. Therefore, it will be important to pay attention on pre and post disaster actions. Availability of potable water and safety of water sources and infrastructure are important work in pre, during and post disaster phases. However, to deal with the various stages of the disaster, the state-level senior officers of the department issue guidance to the District and Block level officers and staff. Therefore, the standard operating procedure (SOP) of the Uttrakhand Drinking Water and Sanitation Department has been prepared for providing the systematic order of those same guidelines. This standard operating procedure of the department is very essential to work upon and to provide quality services to affected people in various stages of the disaster.

2. Objective

Following are the major objectives of departmental standard operating procedures:

- To understand the clarity of all the work and responsibilities of the officers and the staff from the state to the district level within the department.
- To determine the strategy and setting up coordination between the two units of the Department - Jal Sansthan and Peyjal Nigam,for dealing with the disaster.
- To provide safe drinking water to the affected people while ensuring immediate recovery of services in case of disaster.
- To ensure the quality of drinking water as per the standard of ISO 10500.

3. Preparedness Actions

The following activities will be undertaken under the preparedness phase by the department:

3.1 Determination of organizational role and responsibilities

- Under the guidance of the Secretary (Disaster Management), the competent authorities in the planning, logistics and operation wing will be identified from the state to district level and listed down along with other personnel under the minimum requirements of Incident Response System (IRS) for flood, landslide and quick floods, and ensure the availability of this information the operational center. At the state level, Managing Director / Chief General Manager and Executive Engineer at the district level will be the Nodal Officer.

- Under the direction of State Disaster Nodal Officer, all concerned officers/employees will form a WhatsApp Group in the month of May, so that any kind of information related to the disaster can easily be shared to all the concerned people within short period.

- Under the instructions of Executive Engineer of each district, Assistant Engineers / Junior Engineers of all the blocks will compile the details of all the maintained drinking water schemes (rural and urban) from March-April and share to the district headquarters. The compilation will be further sent to the headquarters at state level.

3.2 Risk Assessment

- By the month of March-April, most sensitive districts development blocks/areas will be identified under the most vulnerable districts. For this purpose, State Disaster Nodal Officer (Secretary Administration-Uttrakhand Jal Sansthan) and State Superintendent Engineers at district level will be responsible.

- In view of drought, on the instruction of headquarter, Chief Engineer will map the areas of acute draught and drinking water crisis through assistant engineer / junior engineers from December-January. This assessment will be based on the previous year.

- As per the instructions of the State Headquarters, Executive Engineer will ensure the completion of major construction works (ongoing) under the scheme in the potential areas of disaster before 30th June. The work will be stopped in case of failure to complete it in due time. If necessary, temporary arrangements for water supply will be done.

3.3 Resource Mapping

- Based on received instructions from the Head Office, the Executive Engineer of the district will direct the Assistant Engineers and Junior Engineers, to ensure the availability of the stock such as various types of pipes (of specials, Tools & Plant (T&P), spare parts of Centrifugal Pumping Plant, Hand pipes (and Submersible Pumps and water purification compound (Sodium Hypochlorite) till the month of May.

- With the help of District Disaster Management Authority, Executive Engineer will update the prepared lists of departmental human and physical resources on SDRN/IDRN website.

- Under the guidance of Chief General Manager/Managing Director, Executive Engineers of all districts, with the help of Assistant/Junior Engineer will identify suppliers, contractors, fitters and their entire team, tanker and tanker owners in the respective areas by the month of May. The ready list will be further handed over to the State Headquarter and the District and State Disaster Management Authorities.

- To tackle the drinking water crisis in drought situations, Executive Engineer will complete the process of tendering for tankers till March 31. Based on rate and place, recommended tanker supplier will be sent to Superintending Engineer. This recommended list will be further sent to the District Disaster Management Nodal Officer / District Magistrate through Superintending Engineer.

- By the order of the Executive Engineer, the junior engineers will mark the water filling stations by March-April, and ensure the necessary arrangements for the filling of tankers in order to facilitate the timely and smooth delivery of water from the tankers in the situation of disaster.

3.4 Maintenance of resources

- All Assistant and Junior Engineers in disaster-prone areas will provide current information about pipelines, hand pumps, tube wells and overhead tanks of their concern area to the Executive Engineer by the month of May after ensuring its maintenance and repairs All Assistant and Junior Engineers will make sure the overhauling and maintenance of available mobile generators with the help of their associates so that water can be supplied in case of power crisis at the time of disaster.

3.5 Organizing Capacity building and Mock drill

- The Executive Engineer will organize the training on disaster management at district level for the departmental staff (Departmental Level)
- The Department will nominate its officers and ensure their active participation in the disaster mock drill at the state and district level

4. Information dissemination and operational guidelines for action

The information flow within the department regarding the disaster will be done from both the sides. In any disaster, there may be two situations of information flow :

- In the first case, the lineman/fitter working at the village level will give information to the Junior Engineer about the occurrence of disaster incidents. The Junior Engineer will give information to the Executive Engineer while doing the tasks for which they are assigned. This information can be made through telephones or social media such as WhatsApp. Executive Engineer will apprise of the severity of the situation and inform the concerned officials and District Disaster Management Authority at the state level accordingly.

- In the second case of the information flow, the notification of occurrence of the disaster will come from the State Emergency Operation Center to the State Office of the Department. In the direction of the departmental secretary, the Department's Disaster Nodal Officer will inform Executive Engineer of the respective districts. The information will further be flowed from Assistant Engineer/ Junior Engineer to the lineman/fitter.

5. Direction and Coordination

Although in view of the guidelines issued by the State Disaster Management Authority to implement the work from village to state level under departmental disaster management procedures, the secretary (Drinking Water), Sanitation Department, Chief General Manager-Uttrakhand Jal Sansthan and Managing director-Peyjal Nigam will issue guidelines to their subordinate units for working during the Emergency. In light of these guidelines, disaster management team and the staffs from, Junior Engineers to Fitters will be get activated at their own level. However, determining the conditions of activation will depend on the following circumstances:

5.1 Response in case of short-term warning or no warning

Assistant / Junior Engineer and Lineman/Fitters will get activated at their level immediately after the department receives an early warning of the occurrence of the disaster, or in case of there is no warning, and they started working for drinking water supply and will further rely on the instructions from Executive Engineer

5.2 Response in case of a warning beforehand

Meteorological department issues the weather related disaster early warnings to State Emergency Operation Centre 48-72 hours before. After receiving the warning, the State Emergency Operation Center will notify to the State Headquarters of the Department. Thereafter, the information will circulate at the District and Block level. At the district level, the Executive Engineer- Jal Sansthan and Executive Engineer-Jal Nigam will be in close coordination with District Emergency Operation Center and will issue warnings from the District Emergency Operation Centers to below level. Information will reach to Assistant Engineers, Junior Engineers, Beldars and Fitters through the Executive Engineer. Instructions will be issued at every level in light of the received information.

During the disaster, Chief General Manager-Jal Sansthan and Managing Director-Uttarakhand Payjal Sansadhan evem Nirman Nigam will function at state level in the direction of State Emergency Operation Center whereas at district level Executive Engineer will work in the direction of District Emergency Operation Center/ District Magistrate and at block level Junior Engineer will work under Sub District Magistrate.

6. Process of activities to be undertaken during disaster

6.1 First Step

- On receiving the notification of occurrence of the disaster, members of the team formed at each level will get active under the IRS and will approach the staging area by contacting the emergency operation center at the state and district level.

- The Departmental nodal officer at district level in the disaster-affected district will ensure the presence of all staff. The all sanctioned leave of the staffs will be cancelled with immediate effect.

- The Executive Engineer will maintain constant contact with the District Operation Center and make sure the departmental arrangement on the instructions of District Magistrate.

- The staff of Jal Sansthan and Payjal Sansadhan & Nirman Nigam of disaster affected areas will be deployed by the written order of Headquarter / General Manager / Superintending Engineer / Executive Engineer As soon as on receiving the information of disaster, Executive Engineer / Assistant Engineers / Junior Engineers will reach immediately to the disaster-hit area with essential equipments as per the need like pipes, HDPE pipes, specials, gainti, shovel, belacha, sodium hypochlorite / bleaching powder and laborers.

- In the event of drought, Sub district Magistrate will provide information to the department with the help of village head. Based on the information received, the junior engineer will check the status on the instructions of Executive Engineer and based on the situation, the tanker will be transported to the affected area.

6.2 Second stage

- After the disaster event, the Junior Engineer / Beldars / Fitters will make the water tanker available to the people. In the hilly areas, arrangements will be made to disperse water with the help of mules. Simultaneously, natural resources of water will be identified and cleaned, so that the drinking water can be provided to the disaster-affected and other departmental personnel, health workers and others engaged in relief services.

- Quality of available drinking water will be checked and chlorinated. In the area of public or livestock loss, natural drinking water sources will be identified above the disaster site and water will be continuously disinfected. Assistant Engineer / Junior Engineer, Belders / Fitters will do this work, on the instructions of Executive Engineer.

- On the instructions of Executive Engineer, Assistant Engineers / Junior Engineers will ensure the arrangement of water tankers in the relief camps for the affected people for initial 1-2 days. In a long-running camps (7-10 days or more), hand pump installation will be ensured.

- Junior Engineers will keep replacing damaged pipelines time to time.

- In case of severely damaged pipelines, Junior Engineer will inform Executive Engineer and ensure the repair of the pipelines, inform and demand additional materials. The Executive Engineer will convey this demand to the State Office.

- In flood affected areas, Junior Engineers will chlorinate hand-pumps through unscrewing its upper head with the help of Beldar and fitter.

- On the instructions of Headquarter, Executive Engineer will also prepare a reserve team of departmental personnel for relief and rescue work so that the work can be completed according to the roster in a long-standing disaster situation.

- The concerned Superintendent Engineer and Executive Engineer of the respective areas will continue to inform the General Manager and Head Office about the progress of departmental work so that in case of any additional assistance, immediate action can be taken.

7. Process of activities to be undertaken after disaster

Accounts, various administrative functions, and their processes after disaster will be as follows:

7.1 Administrative work

- After the disaster, Junior Engineers will ensure the chlorination of all the hand pumps by opening it each week with the help of Beldar.

- Under the guidance of Superintendent Engineer, Junior Engineers will conduct quality check of water in the departmental lab and ensure the purification on the basis of the recommendations received.

- Under the guidance of Superintending Engineer, Junior Engineer will take back all the hand pumps after uninstalling it and remove the temporary pipelines from the camps by October.

7.2 Discussions on the Implementation of activities

- The concerned Junior Engineer and Assistant Engineer will assess the damage in the entire disaster affected area and prepare its report along with details of expenditure on its re-establishment. In the report, the photographs of the damage will be included and after verification by the concerned Regional Patwari and Sub-District Magistrate, two copies of the report will be l handed over to District Magistrate by Executive Engineer. In addition, a copy will also be sent to the headquarter.

- After approval of demand and fund allotment, immediate repairing of damaged projects / structures / pipelines will be ensured under the departmental prescribed procedure and rules in the direction of Executive Engineer. Photography will also be undertaken during the progress of work.

8. Checklist

Activities before disaster

The given form will be filled by Departmental Nodal officer at state and district level and will submit to the State/District Emergency Operation Centre/district Magistrate and departmental Headquarter by 15th June.

Action Undertaken	Yes/No	Comment
The Responsibility under the departmental disaster plan have already been decided		
Training of disaster management has been given to departmental personnel from headquarters to field level.		
The pre-preparation and mitigation plan has been implemented within the department		
An adequate warning process has been developed in the context of water supply		
Additional pipes, connections, joins, hydrant, bleaching powder etc. are available		
There is an adequate arrangement for the safety of motor pumps.		

Actions during disasters

The given form will be filled by Departmental Nodal officer at state and district level and will be submitted to the State/District Emergency Operation Centre and departmental Headquarter.

Action Undertaken	Yes/No	Comment
Departmental Disaster Nodal Officer has established communication system with the following organizations / individuals : • State Emergency Operation Center • Disaster Mitigation and Management Center • Commissioner Disaster Management • District Emergency Operation Center • Departmental and Field Offices (under Division)		
The officer in charge has been appointed to ensure water supply During the disaster		
The hospital's water tank is full and the hospital is using it during the emergency		
Peoples are informed to store water to deal with the emergency		
The following departmental structures are regularly monitored and supervised : • Intake wells and other structures • Pumping station • Building above ground • Pumping mains • Treatment Plant		
Due to the electricity inhibition, generator or other alternative arrangements have been provided in disaster-safe buildings to ensure the water supply		
There is an adequate arrangement of water tanker for water supply during emergency		
Arrangements for containers and mule have been made to supply water to the hilly areas		
Supply of water at all transit camps, relief camps, affected villages, animal camps including all other places is being ensured.		
There is buffer stock of diesel to run the motor to ensure water supply		
There is an emergency arrangement for restoration and maintenance of water supply system.		
Drinking water is being supplied under disinfection process.		