

**Standard Operating Procedure
For
Drinking Water**

Submitted to:

Disaster Management Cell

U.P. Academy of Administration and Management, Lucknow

Submitted by:

Earth Protection Group

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Standard Operating Procedure for “Drinking Water”

Standard Operating Procedure has been prepared with the objective of making the concerned persons understand their duties and responsibilities for Drinking Water Supplies regarding disaster management at State level.

Primary agency: Jal Nigam

Support agencies:

Jal Sansthan
 Local Self Government
 PWD (Public Works Department)
 Forest Department
 Nirman Nigam
 Rural Engineering Services (RES)

Jal Nigam is the Primary Department, which maintains the Drinking Water supply in case of disaster in the State with the help of some supporting agencies such as local bodies- Jal Sansthan, Nagar Nigam, Nagar Panchayat, Nirman Nigam, PWD, Forest Department and RES etc.

Planning Assumptions for developing SOP

- There is no alternate arrangement for maintaining standards of services and regular maintenance during normal situation. This would affect the response of the department to any disaster situation.
- For effective preparedness, the departments must have a disaster response plan or disaster response procedures clearly defined in order to avoid confusion, improve efficiency and to also save cost and time.
- Orientation and training for disaster response plan and procedures accompanied by simulated exercises will keep the department prepared for such eventualities. Special skills required during emergency operations need to be imparted to the officials and the staff.
- To the extent possible, preventive measures as recommended in the preparedness and mitigation document of Disaster Management Plan (DMP) should be undertaken to improve departmental capacity to respond to a disaster.

Objectives of SOP

- Restoration of water supplies to the affected area, as per standards (quality and quantity).
- To maintain the quality of drinking water as per the ISO 10500.

The Standard operating procedure for Drinking Water Supply is categorized in to following three stages:

1. **During normal situation (Preparedness stage),**
2. **At the time of warning or disaster (Response stage) and**
3. **Post disaster (Recovery and Mitigation stage)**

SOP during normal situation (Preparedness stage)

- Maintain a list of disaster prone areas in the districts of the State, which should include Natural Disasters and Manmade Disasters.
- PWD, RES, Nirman Nigam, Forest departments will compile the information of:
 - Available water tankers in the department with their capacity.
 - Driver/operator's address and phone numbers.
 - Water tankers available with their contractors and it's capacity
 - Address and contact nos. of contractor and their driver / operators.
- PWD, RES, Nirman Nigam, Forest departments will compile the information on the above mentioned lines and will provide to the Executive Engineer Jal Nigam of the districts. They will further provide this information to the Managing Director of Jal Nigam at State level. This information will be reviewed and updated at every three-month period.
- PWD, RES, Nirman Nigam, Forest department will develop a procedure for hiring the water tankers of the contractors.
- Executive Engineer of Jal Nigam will prepare a plan for water supply for identified shelters (school, college etc.) in the disaster affected districts of the State.
- Executive Engineer of Jal Nigam will prepare a plan for supply of drinking water in temporary shelters on the basis of population of affected area with the help of SDM of the flood affected districts.
- Executive Engineer of Jal Nigam will maintain the inventory of minimum equipments and materials which may be required at the time of disaster at district level.

- In the Earthquake prone districts, the building of pump house constructed with earthquake resistant technology.
- Existing drinking water supply schemes will be implemented in the disaster affected area considering the coverage of water supply in and around the identified shelters of the districts.
- Identify the feasibility of permanent water supply system in and around the identified shelters of disaster affected areas of the State according to the feasibility and construct the permanent water supply system in and around the identified shelters and handover to the owner of the shelter.
- Make an Emergency Response Team (ERT) at State level for water supply, which will be headed by an officer of Chief Engineer cadre of Jal Nigam and members of the ERT will be nominated by the heads of supporting department/agencies, which has technical as well as administrative skills.
- Head of ERT will provide inputs on regular basis to the SRC organization such as:
 1. Areas of improvement in infrastructures for coping disaster situations.
 2. Disaster affected areas in past and drinking water supply progress report.
 3. Prepare and submit periodically a status report of state disaster management infrastructure for water supply.
- India Disaster Resource Network (<http://www.idrn.gov.in>) website is very useful in terms of information available on resource supply from the neighbouring district/State or within district in the disaster affected area. Primary Department and supporting Departments/agencies will ensure the inclusion of information in the IDRN.
- Head of ERT will make provisions at State level and Executive Engineer of Jal Nigam at District level to acquire tankers, storage tanks and staff, required for storing and transportation of water on an emergency basis with co-ordination along with Municipal Corporation, Local Bodies, Forest Department, PWD, RES etc.
- Municipal Corporation, Nagar Palika, Nagar Panchayat will establish procedures for the emergency distribution of water if existing supply is disrupted in their jurisdiction with the help of Jal Nigam.

- Head of ERT will be “NODAL OFFICER – Drinking Water Supply” at the State level.
- Executive Engineer will be “Officer-in-Charge - Drinking Water Supply” at the district level.
- Department of Rural Development will identify the sources of water in the area of natural disaster prone districts and will mark them on the tahsil map. The collected information will be provided to the Executive Engineer Jal Nigam at district level.
- Jal Nigam will maintain the stock of required equipments for the safe drinking water supply for approximate 30,000 people. The stock of equipment may be placed either at one place or distributed to several regions with adequate provision for their immediate transfer from one region to another in the event of disaster.
- Identify and enlist the hand pump mechanics with their contact numbers in the disaster affected areas.
- A separate Contingency plan should be developed for providing food and shelters for local staff and for auxiliary staff who will be sent to the affected area.

SOP at the time of warning or disaster (Response stage)

- Within the affected district/tehsil, leave sanctioned to the primary and supporting department's personnel as requisitioned by the District Magistrate will stand cancelled and the personnel will report back on duty. Out of station officers and staff will be recalled.
- All personnel of primary and supportive departments working within the district which comes under the direction and control of the District Magistrate.
- Executive Engineer reports to D.M. will immediately survey the affected area.
- Establish radio communication systems with primary department, supportive departments and field offices within the district.
- Follow standard practice for the safe drinking water supply.

- Head ERT to provide “Officer-in-Charge – Drinking Water Supply” or the field staff as the need be, with all needed authorizations with respect to:
 - Recruiting casual labourers.
 - Procuring locally needed emergency tools, equipments and needed materials.
 - Funds for emergency needs

- Fill department vehicles with fuel and park them in a protected area.

- “Officer-in-Charge – Drinking Water Supply” of the disaster affect district ensures that the hospital storage tank is full and the hospital is conserving water and also informs people to store an emergency storage of drinking water.

- On the receipt of disaster warning staff of the Jal Nigam, Municipal Corporation, Nagar Palika, Nagar Panchayat continuous monitor the:
 - Wells
 - Water intake structures
 - Pumping stations
 - Pumping mains and
 - Treatment plant.

- Standby diesel pumps or generators should be installed in damaged buildings of the water supply station and buffer stock of fuel is maintained.

- After drinking water is secured within stricken areas, making water available for domestic uses (such as cleaning and washing).

- A minimum level of stock such extra lengths of pipe, connections, joints, hydrants and bleaching powder, chlorine tablets will be maintained at district level for emergency situation. Adequate tools should be available to carry out emergency repairs.

- To maintain the transparency and confidence of the disaster affected people department put details of an action plan along with actions already taken and contact details of nodal officer/control rooms for the general public through adverts in the Newspapers.

SOP for post disaster (Recovery & Mitigation stage)

- Carry out emergency repairs of all damages happened to the water supply systems during disaster.
- Identify unacceptable water sources and take necessary precautions to ensure that water is not accessed from such sources, either by sealing such arrangements or by posting the department guards or local body's guards.
- Arrange for alternate water supply and storage in all transit camps, feeding centers, relief camps, cattle camps, and also the affected areas, till normal water supply is restored.
- Ensure that potable water supply is restored as per the standards.
- Report all activities to the State Relief Commissioner.

Preparedness Checklist for Jal Nigam

(to be filled in by the Head ERT as “NODAL OFFICER – Drinking Water Supply” and submitted to the State Relief Commissioner)

Preparedness Measures Taken	Details/Remarks
<p>Department is familiar with disaster response plan and disaster response procedures which are clearly defined in order to avoid confusion, improve efficiency in order to save cost & time.</p>	
<p>Orientation and training for disaster response plan and procedures undertaken. Special skills required during emergency operations imparted to the officials and the staff.</p>	
<p>Reviewed and updated:</p> <ul style="list-style-type: none"> • Precautionary measures and procedures • the precautions to be taken to protect equipment • the post-disaster procedures to be followed. 	
<p>Adequate warning mechanisms for informing people to store an emergency supply of drinking water have been developed.</p>	
<p>Procedures established for the emergency distribution of water if existing supply is disrupted.</p>	
<p>Head ERT designated as Nodal Officer for Drinking Water Supply.</p>	
<p>Arrangement made for standby water supply in the event of damage, saline instruction or other pollution of the regular supply.</p>	

Arrangements made for the acquire tankers and other temporary means of distributing water on an emergency basis.	
Arrangements made to acquire containers and storage tanks required for storing water on an emergency basis.	
Extra lengths of pipe, connections, joints, hydrants and bleaching powder, chlorine tablets can be made available to carry out emergency repairs.	
Arrangements made for covering and protection of pumps and motors.	

Reported By:

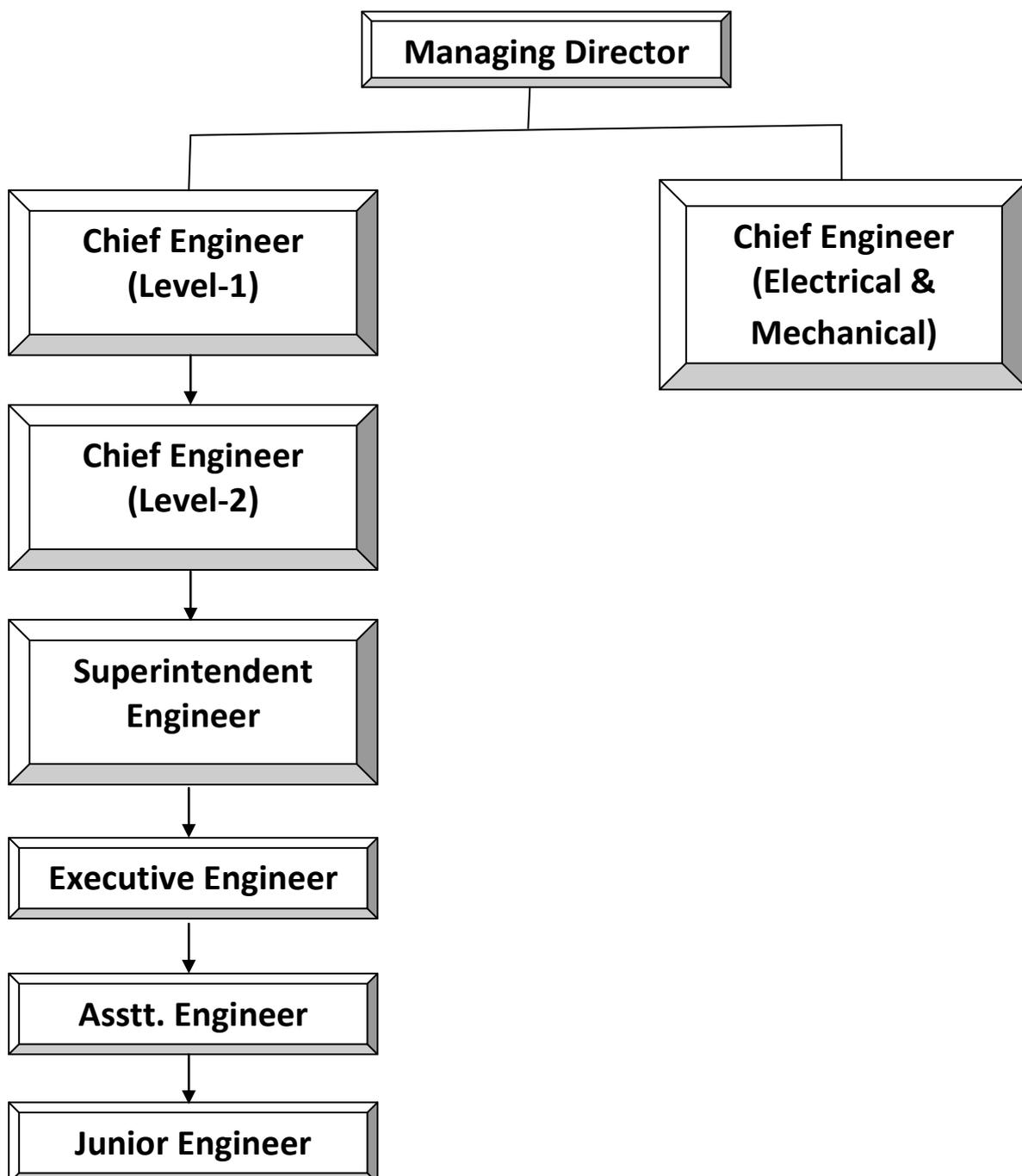
Designation

Signature

Date

Annexure-1

The Structure of Jal Nigam



Annexure-2**Functions of Jal Nigam**

- The preparation, execution promotion and financing the schemes for the supply of water and for sewage disposal.
- To render all necessary services in regard to water supply and sewerage to the State Government and local bodies, on request to private institutions or individuals.
- To prepare State plans for water supply, sewerage and drainage on the directions of the State Govt.
- To review and advise on the tariff taxes and charges of water supply in the areas of Jal Sansthans and local bodies which have entered into on agreement with Jal Nigam under section 46.
- To assess the requirement of materials and arrange for their procurement and utilization.
- To establish state standards for water supply and sewerage services.
- To perform all function not stated herein which were being performed by the Local Self Govt. Engineering Department before the commencement of the act.
- To review annually the technical, financial, economic and other aspects of water supply and sewerage system to every Jal Sansthan or local bodies which has entered into an agreement with the Nigam under section 46 of the act.
- To establish and maintain a facility to review and appraise the technical, financial, economic and other pertinent aspects of every water supply and sewerage scheme in the state.
- To operate, run and maintain any water works and sewerage system if and when directed by the State Govt. on such terms and conditions and for such period as may be specified by the State Govt.
- To assess the requirements for man power and training in relation to water supply and sewerage services in the state.
- To carry out applied research for efficient discharge of the functions of the Nigam or a Jal Sansthan.
- Any other function entrusted to the Nigam by or under the Act.
- Such other functions as may be entrusted to the Nigam by the State Govt. by notification in the Gazette.
- The Nigam shall subject to the provision of the Act have power to do anything which may be necessary or expedient for carrying out its functions under the Act.
- Without prejudice to the generality of the foregoing provision, such power shall include the power :

- To inspect all water supply and sewerage facilities in the State by whomsoever they are operated.
- To obtain such periodic or specific information from any local body and operating agency as it may deem necessary.
- To provide training for its own personnel as well as employees of the local bodies.
- To prepare and carry out schemes for water supply and sewerage.
- To lay down the schedule of fees for all services rendered by the Nigam to the State Government, local bodies, institutions or individuals.
- To enter into contract or agreement with any person, firm or institution, as the Nigam may deem necessary, for performing its function under the Act.
- To adopt its own budget annually.
- To approve tariffs for water supply and sewerage services applicable to respective local areas comprised within the jurisdiction of Jal Sansthans and such local bodies as have entered into an agreement with the Nigam under section 46.
- To borrow money, issue debentures to obtain subventions and grants and manage its own funds.
- To disburse loans to local bodies for their water supply and sewerage schemes.
- To incur expenditure and to grant loans and advances to such persons or authorities as the Nigam may deem necessary for performing the functions under the Act.

ANNEXURE-3

Indian standards/specifications for drinking water IS 10500–1983

Sl. No.	Substance or characteristics	Requirement/ desirable limit
1.	Colour, Hazen, Units	Max 10
2.	Odour	Unobjectionable
3.	Taste	Agreeable
4.	Turbidity NTU	Max 10
5.	pH value	6.5–8.5
6.	Total hardness (as CaCO ₃)	mg/ml, Max 300
7.	Calcium (as Ca)	mg/ml, Max 75
8.	Magnesium (as Mg)	mg/ml, Max 30
9.	Copper (as Cu)	mg/ml, Max 0.05
10.	Iron (as Fe)	mg/ml, Max 0.3
11.	Manganese (as Mn)	mg/ml, Max 0.1
12.	Chlorides (as Cl)	mg/ml, Max 250
13.	Sulphate (as SO ₄)	mg/ml, Max 150
14.	Nitrate (as NO ₃)	mg/ml, Max 45
15.	Fluoride (as F)	mg/ml, Max 0.6–1.2
16.	Phenolics (as C ₆ H ₅ OH)	mg/ml, Max 0.001
17.	Mercury (as Hg)	mg/ml, Max 0.001
18.	Cadmium (as Cd)	mg/ml, Max 0.01
19.	Selenium (as Se)	mg/ml, Max 0.01
20.	Arsenic (as As)	mg/ml, Max 0.05
21.	Cyanide (as CN)	mg/ml, Max 0.05
22.	Lead (as Pb)	mg/ml, Max 0.1
23.	Zinc (as Zn)	mg/ml, Max 5.0
24.	Anionic detergents (as MBAS)	0.2
25.	Chromium (as Cr ⁶⁺)	0.05
26.	Polynuclear Aromatic Hydrocarbons (as PAH)	mg/ml, Max 0.01
27.	Mineral Oil	mg/ml, Max 0.01
28.	Residual free chlorine	0.2
29.	Pesticides	Absent
30.	Radioactive:	
	a. Alpha emitters	μC/ml, Max 10 ⁻⁸
	b. Beta emitters	μC/ml, Max 10 ⁻⁷

STANDARD PRACTICE FOR THE SAFE DRINKING WATER SUPPLY

1. Investigation of Source

a. Piped Water

- After any repair on the distribution system, the repaired main should be flushed and disinfected with a chlorine solution of 50 mg/litre for a contact period of 24 hours, after which the main is emptied and flushed again with potable water.
- If the demand for water is urgent, or the repaired main cannot be isolated, the concentration of the disinfecting solution may be increased to 100 mg/litre and the contact period reduced to 1 hour.
- At the end of disinfection operations, but before the main is put back into service, samples should be taken for bacteriological analysis and determination of chlorine residue.
- When a water treatment plant, pumping station, or distribution system is so badly damaged that operation cannot be restored for some time, other methods described in the following paragraphs must be used.

b. Private systems (open well or tube)

- Water from these sources, with adequate chlorination as necessary, can be connected to a distribution system or hauled to the points of consumption.

c. Springs and wells (non-private)

- Ground water originating from deep aquifers (such as is obtained from deep wells and certain springs) will be free from contamination if certain simple protective measures are taken.
- When springs are used as a source of water supply for a disaster area, careful attention must be paid to geological formations. Limestone and certain rocks are liable to have holes and cracks, especially after an earthquake that may lead to the contamination of ground water.

- A sanitary survey of the area surrounding a well site or spring is of utmost importance. This survey, which should be carried out by a qualified professional environmental health worker, should provide information on sources of contamination, geological structures (with particular reference to overlying soil and rock formations), quality and quantity of ground water, direction of flow, etc.
- The well selected as a source of water, should be at least 30 m away from any potential source of contamination, and should be located higher than all such sources. The upper portion of the well must be protected by an external impervious casing, extending at least 3 m below and 30 cm above ground level. The casing should be surrounded by a concrete platform at least 1 m wide, that slopes, to allow drainage away from the well; it should connect to a drain that will carry the spilled water away. The opening for drop pipes should be sealed to prevent outside water from entering the well. The rim of manholes should project at least 8 cm above the surrounding surface, and the manhole cover must overlap this rim.
- Immediately after construction or repair, the well should be disinfected. First the casing or lining should be washed, and scrubbed with strong chlorine solution containing, 100 mg of available chlorine per litre. A stronger solution is then added to produce a concentration of 50-100 mg/litre in the water stored in the well. After adequate agitation, the well water is left to stand for at least 12 hours, then pumped out. The well is then allowed to refill. When the residual chlorine of the water drops below 1 mg/litre the water may be used.
- Most of what is stated above applies also to the location and protection of springs. The following points may be added:
 1. The collection installation should be so built as to prevent the entrance of light.
 2. The overflow should be so located as to prevent the entrance of surface water at times of heavy rainfall.
 3. The manhole cover and gates should be locked.
 4. Before using the water, the collection chamber should be disinfected with a chlorine solution.
 5. An area within a radius of 50 m around the spring should be fenced off to prevent ground surface contamination.

d. Surface water

- Surface water should be used as a source of water supply only as a last resort.
- Measures should be taken to protect the watershed from pollution by animals and people. As it is usually difficult to enforce control regulations, the point of intake for water supply should be located above any tributary carrying grossly contaminated water. The pump intake should be screened and placed so that it will not take in mud from the stream bed or floating debris. The device can be something extremely simple, such as a perforated drum fixed in the middle of the stream.

2. Treatment

- Water should be tested for the presence of *Escherichia coli* and unsafe concentrations of nitrate as soon as possible. Detection of *E. coli* indicates contamination by human waste and therefore requires immediate protective and corrective measures.
- Monitoring of water quality should be restored or initiated immediately. During the disasters, daily determination of the chlorine residual in public water supplies is sufficient.

3. Disinfection

Chlorine and chlorine-liberating compounds are the most common disinfectants. Chlorine compounds for water disinfection are usually available in three forms:

- a. Chlorinated lime or bleaching powder, which has 25 % by weight of available chlorine when fresh. Its strength should always be checked before use.
- b. Calcium hypochlorite, a more stable compound, sold under various proprietary names. This compound contains 70 % by weight of available chlorine. If properly stored in tight containers and in a dark cool place, it preserves its chlorine content for a considerable period.
- c. Sodium hypochlorite, usually sold as a solution of approximately 5 % strength under a variety of proprietary names. Its use in water disinfection is limited to small quantities under special circumstances.

i. Methods of Chlorination

a. Gas chlorinators

- These machines draw chlorine gas from a cylinder containing liquid chlorine, mix it in water and inject it into the supply pipe. Mobile gas chlorinators are made for field use.

b. Hypochlorinators

- These are less heavy than gas chlorinators and more adaptable to emergency disinfection. Generally, they use a solution of calcium hypochlorite or chlorinated lime in water and discharge it into a water pipe or reservoir. They can be driven by electric motors or petrol engines and their output can be adjusted.
- Hypochlorinators are small and easy to install. They consist usually of a diaphragm pump and standard accessories, including one or more rubber-lined solution tanks, and a chlorine residual testing set. The usual strength of the solution is 0.1 %, and it seldom rises above 0.5 %.

c. The Batch Method

- In the absence of chlorinators, water is disinfected by the batch method. This method is more likely to be used in emergencies. It involves applying a predetermined volume of chlorine solution of known strength to a fixed volume of water by means of some gravity arrangement. The strength of the batch solution should not be more than 0.65 % of chlorine by weight, as this is about the limit of solubility of chlorine at ordinary temperatures. For example, 10 g of ordinary bleaching powder (25 % strength) dissolved in 5 litres of water gives a stock solution of 500 mg/litre. For disinfection of drinking water, one volume of the stock solution added to 100 volumes of water gives a concentration of 5 mg/litre. If after 30 minutes contact the chlorine residual is more than 0.5 mg/litre, this dosage could be reduced.
- After the necessary contact period, excess chlorine can be removed to improve the taste by such chemicals as sulphur dioxide, activated carbon, or sodium thiosulphate. The first two are suitable for permanent installations, whereas sodium thiosulphate is more suitable for use in emergency chlorination. One tablet containing 0.5 g of anhydrous sodium thiosulphate will remove 1 mg/litre of chlorine from 500 litres of water.

d. Continuous Chlorination

- This method, in which porous containers of calcium hypochlorite or bleaching powder are immersed in water, is used mainly for wells and springs but is also applicable to other types of water supply. A free residual chlorine level of 0.7 mg/litre should be maintained in water, treated for emergency distribution. A slight taste and odour of chlorine after half an hour gives an indication that chlorination is adequate. In flooded areas where the water distribution system is still operating, higher chlorine residuals should be maintained. Occasionally, an unpleasant taste develops from the reaction of chlorine with phenolic or other organic compounds. This taste should be accepted, as it is an indication of safe disinfection.

ii. Coagulation Disinfection

Removal of the organic matter greatly lessens the amount of chlorine needed for disinfection. There are many factors that govern the coagulation process. These include:

1. **Hydrogen-ion concentration:** The optimum pH value for coagulation is the value that provides the best floe formation and settling. The pH value of water changes when coagulants are used and has to be adjusted to its optimum value by the addition of alkalis or acids.

2. **Mixing:** Coagulants must be thoroughly mixed with the water to give satisfactory results. This may be accomplished by (a) pump action, whereby the coagulant solution is added to the suction pipe of the pump and the pump does the mixing; (b) the drip-bottle method, i.e., hanging a drip-bottle over the discharge pipe or hose of raw water that feeds the tank and letting the coagulant solution drip on to the water jet; or (c) dissolution, i.e., allowing the discharge of raw water to splash on to a basket containing solid coagulant.

3. **Coagulant dosage:** The amount of coagulant and chemicals required to adjust the pH value of water may be calculated when the pH and the type of alkalinity are known. However, optimum dosage for given water may be determined approximately using the jar test.

iii. Coagulation-Filtration-Disinfection

- In this method filtration is added to the procedures described above. If temporary reservoirs can be arranged, it is preferable to let the water settle before filtering it. In mobile purification units, however, the water is filtered through a pressure filter without settling. They usually have a capacity of 4000-7000 litres per hour, and consist essentially of:
 1. A centrifugal pump directly coupled to a gasoline engine;
 2. A filter (pressure, rapid sand filter)
 3. A hypochlorinator
 4. Chemical solution tanks (one for alum and one for soda ash)
 5. A chlorine solution tank
 6. Hose adapters
 7. Valves (pump suction, inlet, drain, air release, outlet, flow control, etc.) and
 8. A tool box. Instructions in the manuals supplied with such units must be followed.

iv. Filtration-Disinfection

- In this method water is mixed with diatomaceous earth, then passed through the filter unit in which filtering partitions (septa) are installed. Mobile purification units using this process have been produced with capacities up to 50,000 litres per hour. They consist essentially of:
 1. A centrifugal pump driven by a rope-started gasoline engine
 2. A filter (diatomite)
 3. A hypochlorinator
 4. A slurry feeder and an air compressor
 5. A precoat and recirculating tank
 6. A chlorine solution tank
 7. Hose adapters
 8. Valves (pump suction, inlet, drain, outlet, flow control, air release, etc.) and
 9. A tool box. Instructions in the manuals supplied with such units must be followed.

4. Physical Protection

- In disaster situations, physical protection of water supplies for use, is a major consideration. In addition to such barriers as walls and fences, guards may be necessary to prevent mobs from overrunning and damaging treatment units, pumping stations, tankers, distribution stations, and temporary collection facilities. Intake structures, wells, and springs should also be protected against misuse. The character and extent of such protection will depend on the local situation.

5. Ice supply

- Required ice should be supplied from a commercial manufacturing plant where it is made from safe water and where sanitary regulations are observed.
- It should be distributed in trucks designed for the purpose, equipped with tools for the safe handling of ice.

Checklist for Jal Nigam

(to be filled in by Executive Engineer as Officer in-charge –Drinking Water and submitted to Head ERT as “NODAL OFFICER – Drinking Water Supply”).

Action Taken	Y/N	Details /Remarks
Radio communications established with <ul style="list-style-type: none"> • Emergency Operations centre • District control room • Departmental & field offices within the district 		
Executive Engineer appointed as “OFFICER-IN-CHARGE - Water Supply”.		
Ensured that the hospital storage tank is full and the hospital is conserving water.		
Informed people to store emergency supply of drinking water.		
Continuous monitoring carried out for: <ul style="list-style-type: none"> - Wells - Water intake structures - Pumping stations - Pumping mains and - The treatment plant. 		
Provision for standby water supply made.		
Procedures were established for the emergency distribution of water if existing supply was disrupted.		
Provisions to acquire tankers and establishing other temporary means of distributing water on an emergency basis carried out.		

Provisions to acquire containers and storage tanks required for storing water on an emergency basis carried out.		
Water distributed to & alternate water supply also arranged: <ul style="list-style-type: none"> - All transit camps - Relief camps - Affected villages - Cattle camps. - The affected areas 		
Buffer stock of fuel for the motors acquired		
Emergency repairs of damages to water supply systems carried out.		
Appropriate sources of potable water identified.		
Unacceptable water sources identified & necessary precautions taken to see that no water is accessed from such sources.		
Drinking water supply is disinfected as per the standards and procedures laid down		
Emergency accommodations for staff from outside the area provided		

Inspected By:

Designation

Signature

Date