

# **JAYPEE GROUP**

## **DISASTER MANAGEMENT PLAN**

**SUBMITTED TO**

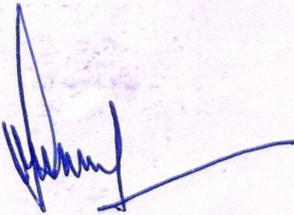
**SJVN LIMITED, NAITWAR MORI HYDRO ELECTRIC  
PROJECT (60MW)**

**DISTT. UTTARKASHI, UTTARAKHAND**

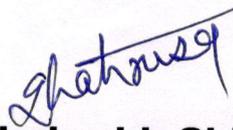
**BY**

**JAIPRAKASH ASSOCIATES LIMITED,  
NAITWAR MORI HYDRO ELECTRIC PROJECT (60MW)**

**DISTT. UTTARKASHI, UTTARAKHAND**



**(Col. S. K. Sharma (Retd.))  
Sr. General Manager**



**(Shahrukh Siddiqui)  
Safety Manager/Officer**

# Table Content

1. Disaster Management Plan
  - 1.1 Introduction
    - 1.1.1 Disaster Management
    - 1.1.2 Disaster Management Team (DMT)
    - 1.1.3 Emergency Control Organisation (ECO)-
    - 1.1.4 Emergency Planning Committee (EPC)-
    - 1.1.5 Emergency Response Team (ERT) –
    - 1.1.6 Personal Emergency Evacuation Plan (PEEP) –
    - 1.1.7 Refuge –
  - 1.2 Disasters, Risk Reduction and Management – Definitions
    - 1.2.1 Disasters
    - 1.2.2 Disaster Risk Reduction (Mitigation)
  - 1.3 Natural Hazards
  - 1.4 Types of Disasters
    - 1.4.1 Types of Disaster
  - 1.5 Categories of Natural Hazards
  - 1.7 Levels of Disasters
  - 1.7 Nodal Ministry for Management / Mitigation of Different Disasters Disaster Nodal Ministry/ Department
  - 1.8 State Disaster Management Authority (SDMA)
  - 1.9 Plan Implementation
  - 1.10 Natural Hazards
    - 1.10.1 Flood
    - 1.10.2 Silt Data of River Tons
    - 1.10.2 Earthquake
    - 1.10.3 Landslides and Snow Avalanches
2. Emergency Plan
  - 2.1 Emergency Resonance Plan:
  - 2.2 Emergency Action Plan
    - a. Alarm or Siren:-
    - b. Assembly point
    - c. Mock drill
    - d. Communication of the Procedure
    - e. Evacuation Maps
  - 2.3 Project layout Plan
  - 2.5 Assembly Area
  - 2.5 Emergency stands by name list and contact details
  - 2.6 Inventory Resources
    - a. Disaster management Kit and First aid kit
    - b. Do's and Don'ts for Disasters
3. First aid in Emergency
  - 3.1 First-Aid
  - 3.2 First aid kit
  - 3.3 Elements of Training in first aid
  - 3.4 Conclusion

# 1. Disaster Management Plan



## 1.1 Introduction

### 1.1.1 Disaster Management

The Disaster Management Act, 2005 (DM Act 2005) lays down institutional and coordination mechanism for effective Disaster Management (DM) at the national, state, district and local levels. The National Disaster Management Plan (NDMP) provides a framework and direction to the government agencies for all phases of disaster management cycle.

The NDMP is consistent with the approaches promoted globally by the United Nations, in particular the Sendai Framework for Disaster Risk Reduction 2015-2030.

The four priorities for action under the Sendai Framework are:

1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction.

The NDMP is a “dynamic document” in the sense that it will be periodically improved keeping up with the global best practices and knowledge base in disaster management. It is in accordance with the provisions of the Disaster Management Act 2005, the guidance given in the National

Policy on Disaster Management 2009 (NPDM), and the established national practices. Relevant agencies – central or state – will carry out disaster management activities in different phases in the disaster-affected areas depending on the type and scale of disaster.

The NDMP provides a framework covering all aspects of the disaster management cycle. It covers disaster risk reduction, mitigation, preparedness, response, recovery, and betterment reconstruction.

As per Section 37 of the DM Act, every ministry and department of the Government of India, including the hazard-specific nodal ministries, shall prepare comprehensive DM plans detailing how each of them will contribute to the national efforts in the domains of disaster prevention, preparedness, response, and recovery.

### **Scope**

As per the DM Act 2005, the National Plan shall include:

- a. Measures to be taken for prevention of disasters or the mitigation of their effects
- b. Measures to be taken for the integration of mitigation measures in the development plans
- c. Measures to be taken for preparedness and capacity building to effectively respond to any threatening disaster situations or disaster
- d. Roles and responsibilities of different Ministries or Departments of the Government of India in respect of measures of the three aspects mentioned above

### **1.1.2 Disaster Management Team (DMT)**

A cohort of staff mainly drawn from CTC who manage the progress of emergency response to emergencies (other than fire) that might have a prolonged activation.

### **1.1.3 Emergency Control Organisation (ECO)-**

A person or persons appointed by the Emergency Planning Committee to direct and control the implementation of the facility's emergency response procedures.

### **1.1.4 Emergency Planning Committee (EPC)-**

Persons responsible for the documentation and maintenance of the emergency plan.

### **1.1.5 Emergency Response Team (ERT) –**

Specialist or specially trained personnel to attend to specific incidents to contain control or eliminate the emergency using emergency response equipment. The ERT may be in place longer than the ECO which is primarily focussed around evacuation.

### **1.1.6 Personal Emergency Evacuation Plan (PEEP) –**

An individualised emergency plan designed for an occupant with a disability who may need assistance during an emergency.

### **1.1.7 Refuge –**

An area on a floor or area that is specifically designed to protect people from heat, smoke and toxic gases and which provides direct access to an exit.

## 1.2 Disasters, Risk Reduction and Management – Definitions

### 1.2.1 Disasters

The United Nations International Strategy for Disaster Reduction (UNISDR) (2009) defines disaster as:

“A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.”

### 1.2.2 Disaster Risk Reduction (Mitigation)

Disaster Risk Reduction, as per UNISDR, consists of a framework of elements that will help to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.

## 1.3 Natural Hazards

The widely accepted classification system used by the Disaster Information Management System of classifies disasters arising from natural hazards into five major categories:

- **Geophysical:** Geological process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.
- **Hydrological:** Events caused by deviations in the normal water cycle and/or overflow of bodies of water caused by wind set-up
- **Meteorological:** Events caused by short-lived/small to meso-scale atmospheric processes (in the spectrum from minutes to days)
- **Climatological:** Events caused by long-lived meso- to macro-scale processes (in the spectrum from intra-seasonal to multi-decadal climate variability)
- **Process or phenomenon of organic origin** or conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances.

## 1.4 Types of Disasters

Even at a larger scale, globally, the UN Inter-Governmental Panel on Climate Change (IPCC) has shown that human-induced climate change has significantly increased both the frequency and intensity of extreme weather events.

### 1.4.1 Types of Disaster

- 1) Natural Disasters
  - Flood
  - Earthquake
  - cyclone
- 2) Man Made Disasters-
  - Fire

## 1.5 Categories of Natural Hazards

Geophysical	Earthquake/Mass movement of earth materials	<ul style="list-style-type: none"> <li>• Landslide following earthquake;</li> <li>• Urban fires triggered by earthquakes;</li> <li>• Liquefaction - the transformation of (partially)</li> </ul>
Geophysical	Volcano	<ul style="list-style-type: none"> <li>• A type of geological event near an opening/vent in the Earth's surface including volcanic eruptions of lava, ash, hot vapour, gas, and pyroclastic material.</li> <li>• Ash fall; Lahar - Hot or cold mixture of earthen material flowing on the slope of a volcano either during or between volcanic eruptions;</li> <li>• Lava Flow</li> <li>• Pyroclastic Flow - Extremely hot gases, ash, and other materials of more than 1,000 degrees Celsius that rapidly flow down the flank of a volcano (more than 700 km/h) during an eruption</li> </ul>
Geophysical	Tsunami	<ul style="list-style-type: none"> <li>• A series of waves (with long wavelengths when traveling across the deep ocean) that are generated by a displacement of massive amounts of water through underwater earthquakes, volcanic eruptions or landslides.</li> </ul>
Geophysical	Flood Landslides Wave Action	<ul style="list-style-type: none"> <li>• Avalanche, a large mass of loosened earth material, snow, or ice that slides, flows or falls rapidly down a mountainside under the force of gravity</li> <li>• Coastal Erosion - The temporary or permanent loss of sediments or landmass in coastal margins due to the action of waves, winds, tides, or anthropogenic activities</li> <li>• Coastal flood - Higher-than-normal water levels along the coast caused by tidal changes or thunderstorms that result in flooding, which can last from days to weeks</li> <li>• Debris Flow, Mud Flow, Rock Fall - Types of</li> </ul>
Meteorological	Hazard caused by short-lived, micro-to meso-scale extreme weather and atmospheric conditions that may last for minutes to days	<ul style="list-style-type: none"> <li>• Cyclone, Storm Surge, Tornado, Convective Storm, Extratropical Storm, Wind</li> <li>• Cold Wave, Derecho</li> <li>• Extreme Temperature, Fog, Frost, Freeze, Hail,</li> </ul> <p>Heat-wave</p> <ul style="list-style-type: none"> <li>• Lightning, Heavy Rain</li> <li>• Sand-Storm, Dust-Storm</li> <li>• Snow, Ice, Winter Storm, Blizzard</li> </ul>

Climatological	Unusual, extreme weather conditions related to long lived, meso- to macro scale atmospheric processes ranging from intra-seasonal to multi-decadal (long-term) climate variability	<ul style="list-style-type: none"> <li>• Drought</li> <li>• Extreme hot/cold conditions</li> <li>• Forest/Wildfire Fires</li> <li>• Glacial Lake Outburst</li> <li>• Subsidence</li> </ul>
Biological	Exposure to germs and toxic substances	Epidemics: viral, bacterial, parasitic, fungal, or prion Infections. Insect infestations Animal stampedes

## 1.6 Levels of Disasters

The disaster management and its planning at various tiers must take Using this approach, the High Power Committee on Disaster Management, in its report of 2001, categorized disaster situations into three 'levels': L1, L2, and L3. The period of normalcy, L0, should be utilized for disaster risk reduction.

**Level-L1:** The level of disaster that can be managed within the capabilities and resources at the District level. However, the state authorities will remain in readiness to provide assistance if needed.

**Level-L2:** This signifies the disaster situations that require assistance and active mobilization of resources at the state level and deployment of state level agencies for disaster management. The central agencies must remain vigilant for immediate deployment if required by the state.

**Level-L3:** This corresponds to a nearly catastrophic situation or a very large-scale disaster that overwhelms the State and District authorities.

The categorization of disaster situations into levels L0 to L3 finds no mention in DM Act 2005. Further, the DM Act does not have any provision for notifying any disaster as a 'national calamity' or a 'national disaster'.

## 1.7 Nodal Ministry for Management / Mitigation of Different Disasters Disaster Nodal Ministry/ Department

Biological	Min. of Health and Family Welfare (MoHFW)
Chemical and Industrial	Min. of Environment, Forest sand Climate Change (MoEFCC)
Civil Aviation Accidents	Min. of Civil Aviation (MoCA)
Cyclone/Tornado	Min. of Earth Sciences (MoES)
Tsunami	Min. of Earth Sciences (MoES)
Drought/Hailstorm/Cold Wave and Frost/Pest Attack	Min. of Agriculture and Farmers Welfare (MoAFW)

Earthquake	Min. of Earth Sciences (MoES)
Flood	Min. of Water Resources (MoWR)
Forest Fire	Min. of Environment, Forests, and Climate Change(MoEFCC)
Landslides	Min. of Mines (MoM)
Nuclear and Radiological Emergencies	Dept. of Atomic Energy (DAE)
Rail Accidents	Min. of Railways (MoR)
Road Accidents	Min. of Road Transport and Highways (MoRTH)
Urban Floods	Min. of Urban Development (MoUD)

## 1.8 State Disaster Management Authority (SDMA)

State Disaster Management Authority (SDMA) or its equivalent under a different name with the Chief -Minister as the Chairperson. In case of other UTs, the Lieutenant Governor or the Administrator shall be the Chairperson of that Authority.

The SEC will be headed by the Chief Secretary to the State Government. The SEC will coordinate and monitor the implementation of the National Policy, the National Plan, and the State Plan. The SEC will also provide information to the NDMA relating to different aspects of DM.

## 1.9 Plan Implementation

Naitwar Mori Hydroelectric Project (NMHEP) is located between Latitude 31°3'35"N and Longitude 78°5'43"E in Uttarkashi District of Uttarakhand, India. The major components of the project lie on right bank of tons river. Tons is one of the Major tributaries of Yamuna River that flows from north east to south west to meet Yamuna River at Haripur.

Naitwar Mori H.E. Project is a run of the river scheme. The project is 173 km from Dheradun (Uttarakhand) on Tons river, about 100Kms upstream of its confluence with Yamuna River.

The project envisages to generate 60 MW (2X30) of power by diverting 100 cumecs of water through head race tunnel and pressure shaft to a underground power house located at right bank of Tons river. The design discharge will be diverted at the head work's in a 4.3387 km long head race tunnel to generate 60 MW of power in the powerhouse located on the right bank of the Tons river.

The project envisages construction of about 30.5 m high and 48.90m long (at top) Barrage Structure across river Tons near Naitwar Village with three nos radial gates, each having size 9.1m(W)x8.0m(H) and one floating debris flap gate of size 6.6m(W)x2.3m(H), upstream and downstream Coffor Dams, 20m(W)x5.0m(D)x250m(L) diversion channel, Surface Desilting Tanks, Twin Tanks of size 130m(L)x25m(W)x13.5m(H), 58.43m deep and 18m dia Restricted Orifice type underground Surge Shaft, 154.475m long and 4m dia Pressure Shaft, bi-furcating into penstocks each of 2.8m dia, Underground Power House Cavern of 57.8m(L)x18.60(W)x33.07(H) to house 2 units of 30MW each and Transformer Hall Cavern of 73.11m(L)x11.9m(W)x13.65m(H)

S/N	Feature	Description
1	Area	6 km approximate (Areal)
2	Location	Naitwar Mori Hydroelectric Project (NMHEP) is located between N: 31°3'28.5" & E: 78°02'46.7" and N: 31°3'19.4" & E: 78°05'13.9" in Uttarkashi District of Uttarakhand, India. The major components of the project lie on right bank of tons river.
3	Rivers	Tons River originates at the height of 6,315 metres from the Bandarpunch Mountain in Garwal region of Uttarakhand. It is one of the most perennial rivers emerging from the Himalayas. Surging from that great height, the glacier-fed river's course ends when it meets the Yamuna River. And the exceptional thing about Tons is that even being a tributary, it contributes more water than Yamuna itself possesses, at the point of meeting. The Tons Valley goes across the JaunsarBawar area of Garhwal and touches Himachal Pradesh as it marks the boundary between the states of Uttarakhand and Himachal Pradesh.
4	Forest type	Temperate mixed Subalpine and Alpine vegetation.
5	Coastline	Nil
6	Sex Ratio	1,000 males Employees (JAL)
7	Geology	The top of the Tons river is in the Himalayan Crystalline complex. It then flows through Tethan Himalaya rocks before connecting to the Pabbar River in the Lesser Himalayan Sequence. The Tons flows into the Yamuna River after crossing into the Sub-Himalaya Sequence.
8	Climate	The climate varies from Sub-tropical monsoon type (mild Winter, hot summer) to tropical upland type (mild and dry winter, short mild summer). The northern part of the area is perennially under snow cover, here the climate is sub-arctic type as the area is represented by lofty Himalayan Range. Severe winter and comparatively higher rainfall are the characteristic features of the northern part. The area is represented by mainly four seasons viz. the cold winter season, (December to February), the hot weather season (March to May), southwest monsoon season (June to September) followed by post monsoon season (October to November).
9	Rainfall	Rainfall, spatially, is highly variable depending upon the altitude. Larger part of the district is situated on the southern slopes of the outer Himalayas, monsoon currents can penetrate through trenched valleys, and the rainfall reaches its maximal in the monsoon season. About 75% of rain occurs in this zone during the monsoon season, June to September. August is the wettest month. Rainfall rapidly decreases after September and it is minimum in November. About 17% of the annual precipitation occurs in four winter months. The winter precipitation is in association with the passage of the western disturbances and is mostly in the form of snowfall, particularly at higher elevations. The precipitation during the pre-monsoon month, which is about 7% of the annual total and the post-monsoon months, is frequently associated with thunderstorms. The average annual rainfall is 1095.0, 1552.8, 1631.2, 1917.5, 1948.5, 2092.9 mm.

## 1.10 Natural Hazards

### 1.10.1 Flood

Floods are the most common natural disasters. The construction of dams in rivers can offer many advantage; however the consequences resulting from their failure could result in major devastating disasters, damages, including loss of life and property destruction of the last two centuries. Some of the recent disasters have focused attention on the requirement of conducting needful analysis of such cases, however remote they may be, in order to assess probable damage and also to plan necessary measures for mitigating the losses.



## 1.10.2 Silt Data of River Tons

Silt Data of River Tons (NMHEP)

Hydrological Year		Monsoon Season				Post Monsoon Season			Winter Season		Pre-Monsoon Season		
		June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	April	May
2006	Max	-	15008	18144	5544	448	157	328	-	-	-	-	-
	Min	-	511	511	177	89	14	21	-	-	-	-	-
2007	Max	2195	5671	8888	3200	872	260	86	45	125	434	256	594
	Min	82	354	157	345	164	67	27	13	4	31	25	60
2008	Max	5923	3022	1108	1834	302	67	61	107	85	83	92	575
	Min	43	313	184	64	49	39	32	26	30	35	35	52
2009	Max	467	322	892	8748	206	134	132	82	47	112	91	90
	Min	49	68	190	122	60	65	60	9	29	25	19	34
2010	Max	277	2844	11541	15653	2115	142	84	87	73	78	104	192
	Min	101	170	791	1153	58	40	43	53	53	52	64	75
2011	Max	798	2365	8944	5228	244	149	158	368	529	768	1224	562
	Min	60	124	238	216	60	53	53	43	82	76	67	72
2012	Max	375	1395	137404	3111	340	320	192	148	158	207	159	246
	Min	110	123	242	97	46	43	34	49	56	68	63	76
2013	Max	7593	114489	13153	2821	387	168	329	384	693	194	244	926
	Min	224	510	1129	107	71.00	37	28	28	68	23	80	156
2014	Max	2230	75985	12745	6995	328	122	492	487	468	538	742	2715
	Min	267	716	392.00	105	68	63	31	37	55	54	30	163
2015	Max	2999	4821.00	24980	5634	353	420	111	734	1542	1038	513	838
	Min	66	164	405	124	18	25	34	46	39	43	27	44
2016	Max	8016	11127	9476	3761	287	190	185	103	176	429	550	2078
	Min	286	543	302	23	15	11	11	16	15	27	38	77
2017	Max	3080	13110	8031	1612	470	146	203	89	176	205	544	414
	Min	68	407	244	48	32	13	12	12	10	11	32	31
2018	Max								97	98	159		
	Min								8	36	52		
Average Max		3395.30	23515.10	23716.20	5859.70	590.40	211.80	203.30	273.10	417.00	424.50	451.90	923.00
Average Min		135.60	349.20	427.40	240.40	64.10	45.60	36.50	34.00	47.70	49.70	48.00	84.00

## **1.10.2 Earthquake**

Nearly 59 percent of India's territory is vulnerable to earthquakes. Many smaller- quakes have been occurring in various parts of India. A magnitude 5.1 earthquake struck India, at depth of 16.1km (10mi), near Rudraprayag district in the state of Uttarakhand on February 6, 2017. Tremors were felt continuously for thirty seconds in national capital Delhi NCR and neighbouring State. Seven states in North East (Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Meghalaya), the Andaman and Nicobar Islands, parts of three states in the North/North-West (Jammu and Kashmir, Uttarakhand, Bihar, and Gujarat are in Seismic Zone V.

- There will be provision of local newspaper, radio or television station to:
- Provide series of information on locating hazards in homes, workplaces, day care centers, etc.
- Provide tips for earthquake drills

## **1.10.3 Landslides and Snow Avalanches**

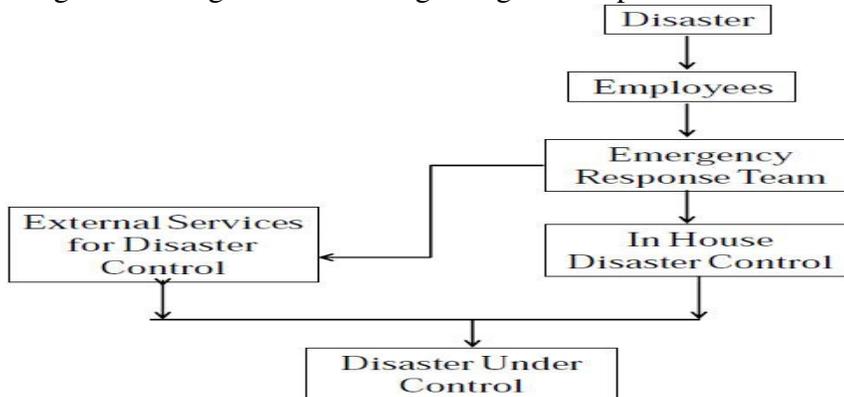
### **Landslides**

Landslides occur in the hilly regions of India such as the Himalaya, North-East India, the Nilgiris, Eastern Ghats and Western Ghats. It is estimated that 30 percent of the World's landslides occur in the Himalayan ranges. The Himalayan range, which constitutes the youngest and most dominating mountain system in the World, is not a single long landmass but comprises a series of sevendirectional parallel folds running along a grand arc for a total of 3,400 kilometres. Landslides are also common in Western Ghat. In the Nilgiris, in 1978 alone, unprecedented rains in the region triggered about one hundred landslides which caused severe damage to communication lines, tea gardens and other cultivated crops. Scientific observations in north Sikkim and Garhwal regions in the Himalayas clearly reveal that there is an average of two landslides per sq. km. The mean rate of land loss is to the tune of 120 meter per km per year and annual soil loss is about 2500 tons per sq. km.

## 2. Emergency Plan

### 2.1 Emergency Resonance Plan:

The following flowchart gives the idea regarding overall path to be followed during disaster.



### 2.2 Emergency Action Plan

#### a. Alarm or Siren:-

A siren is a loud noise-making device. It is fixed in the place where people living or working and used to warn of natural disaster or fire situation.

At Naitwar Mori Hydro Electric Project Site two alarm systems installed at following location.

- a. Barrage Site
- b. Power House camp site

#### b. Assembly point

Assembly point sign indicate safe locations for employees and visitors assemblies in times of emergency evacuation. All assembly areas needed to be clearly identified in the safe management of evacuation procedures. Large, wide and open areas are preferred for Assembly point

#### c. Mock drill

A mock Drill is the testing of the efficacy of Disaster Management Plan. It is a participatory method to practice the safety related measures and evacuation of an emergency situation. It is practice as how to save life in real time situation of kind of danger calamity that occurs with no advance or very little time to evacuated from place.

Following objective of Mock Drill-

- To improve the coordination between various departments of disaster control.
- To identify the abilities of the organization and its people for facing disaster.

- To check the competency of the planned action.
- To identified the possible errors and risks.



#### **d. Communication of the Procedure**

To be effective, an Emergency Response Procedure must be clearly communicated to all site personnel. The following activities should be considered:

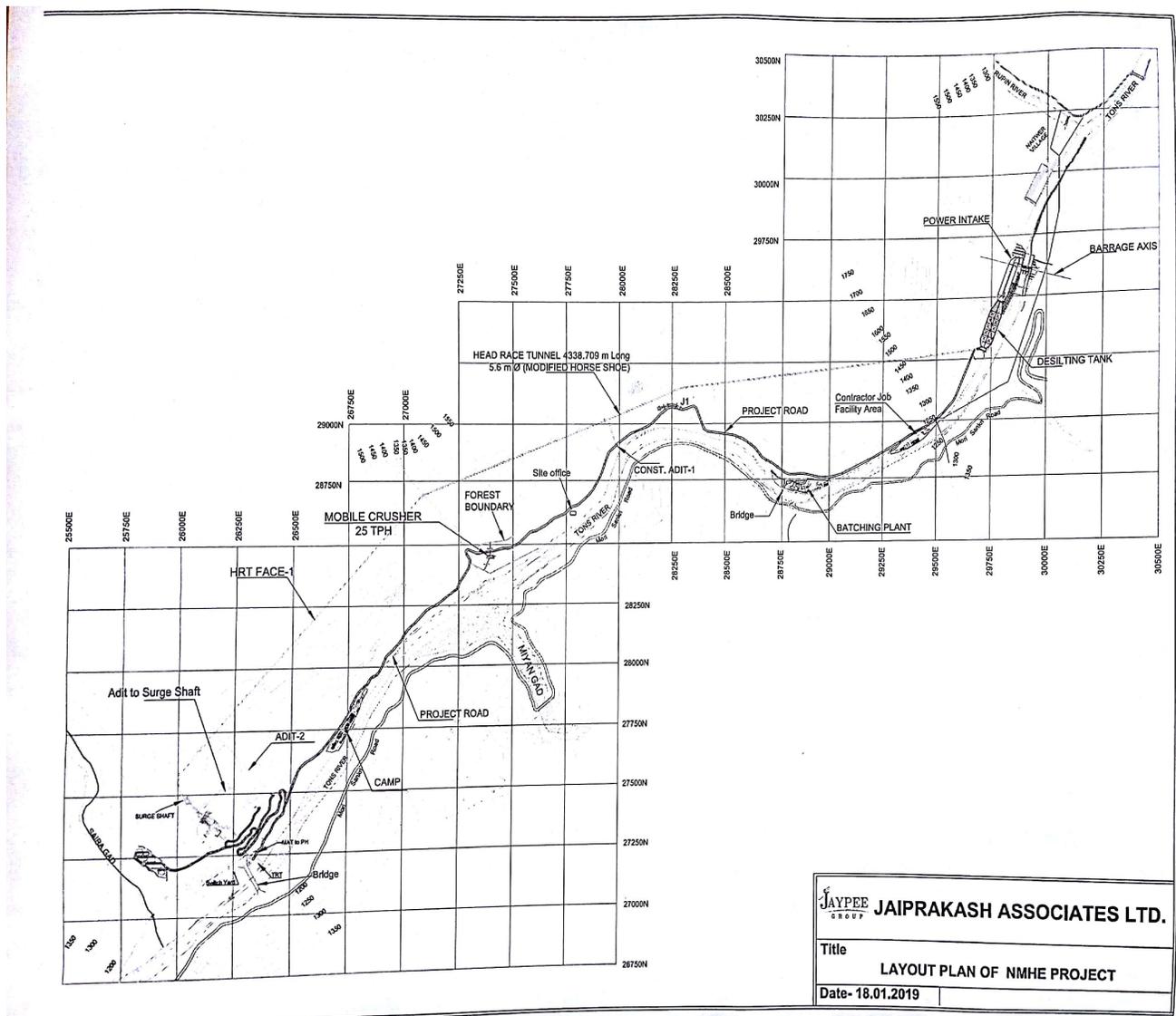
- Review the procedure with new site subcontractors and new workers to ensure that it covers their activities adequately.
- Review the procedure with suppliers to ensure that it covers any hazards that the storage or delivery of their materials might create.

- Review new work areas in operating plants with owner/client to ensure that new hazards are identified and covered in the procedure.
- Review the procedure with the Joint Health and Safety Committee or Health and Safety Representative on a regular basis to address new hazards or significant changes in site conditions.
- Post the procedure in a conspicuous location.

### e. Evacuation Maps

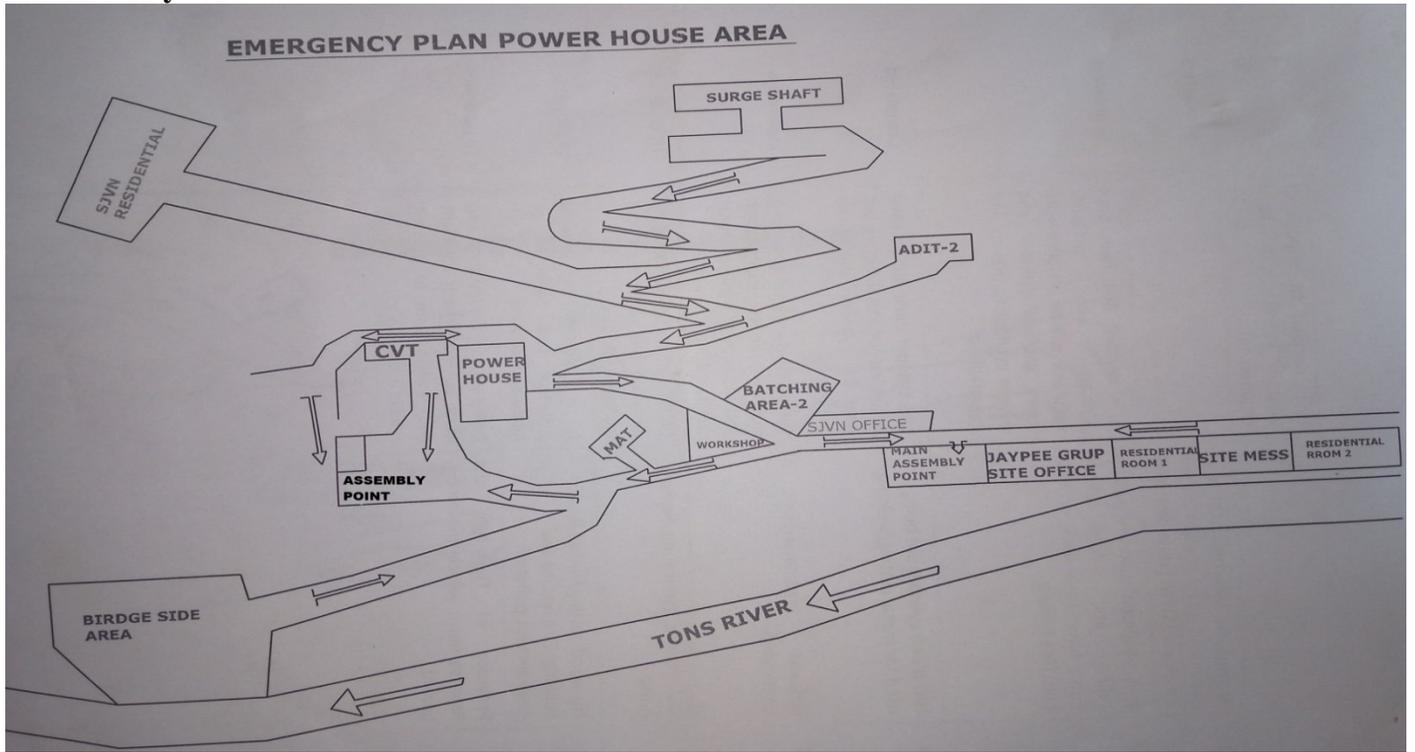
- Look for Evacuation Maps for construction site you will be in.
- Maps show exit routes from camp area, severe weather shelter areas and locations of fire extinguishers, pull stations, and other emergency equipment.

### 2.3 Project layout Plan

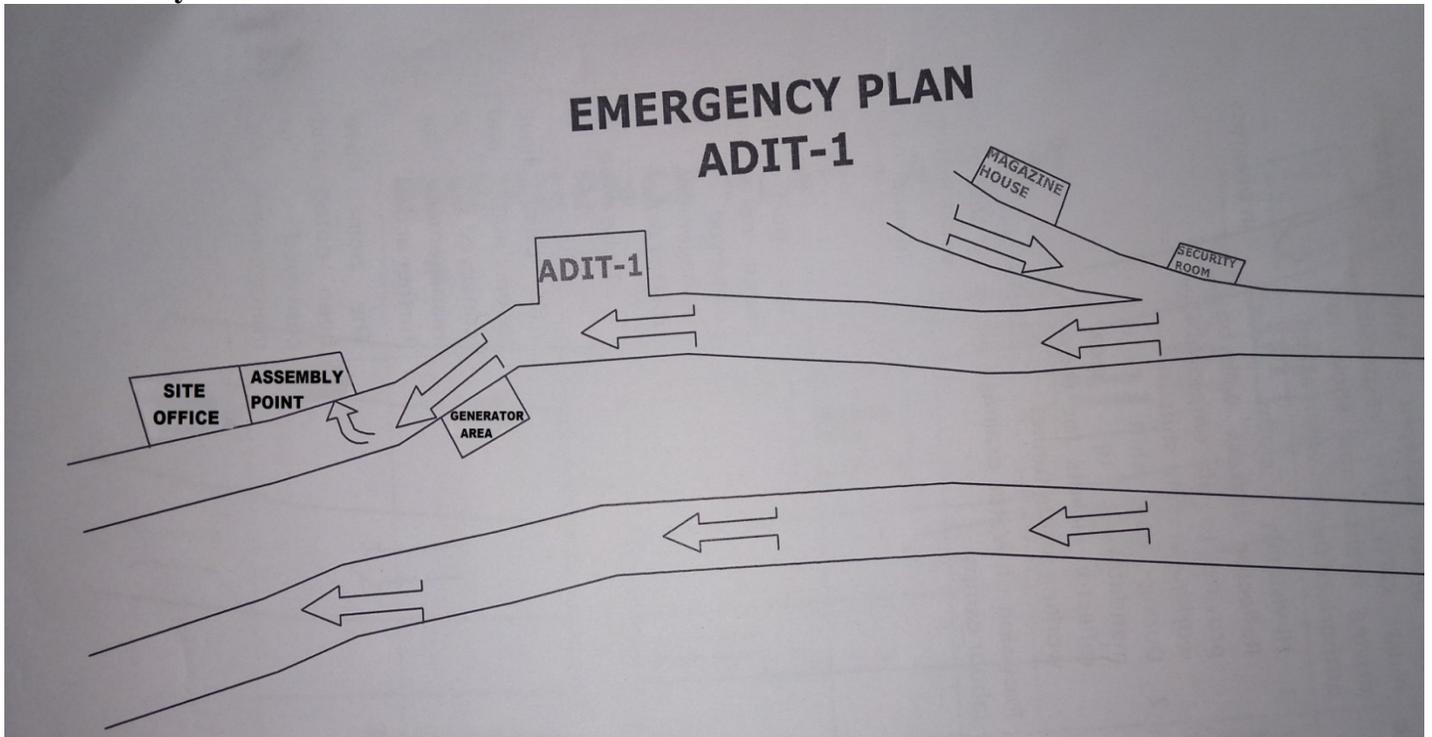


## 2.4 Assembly Area

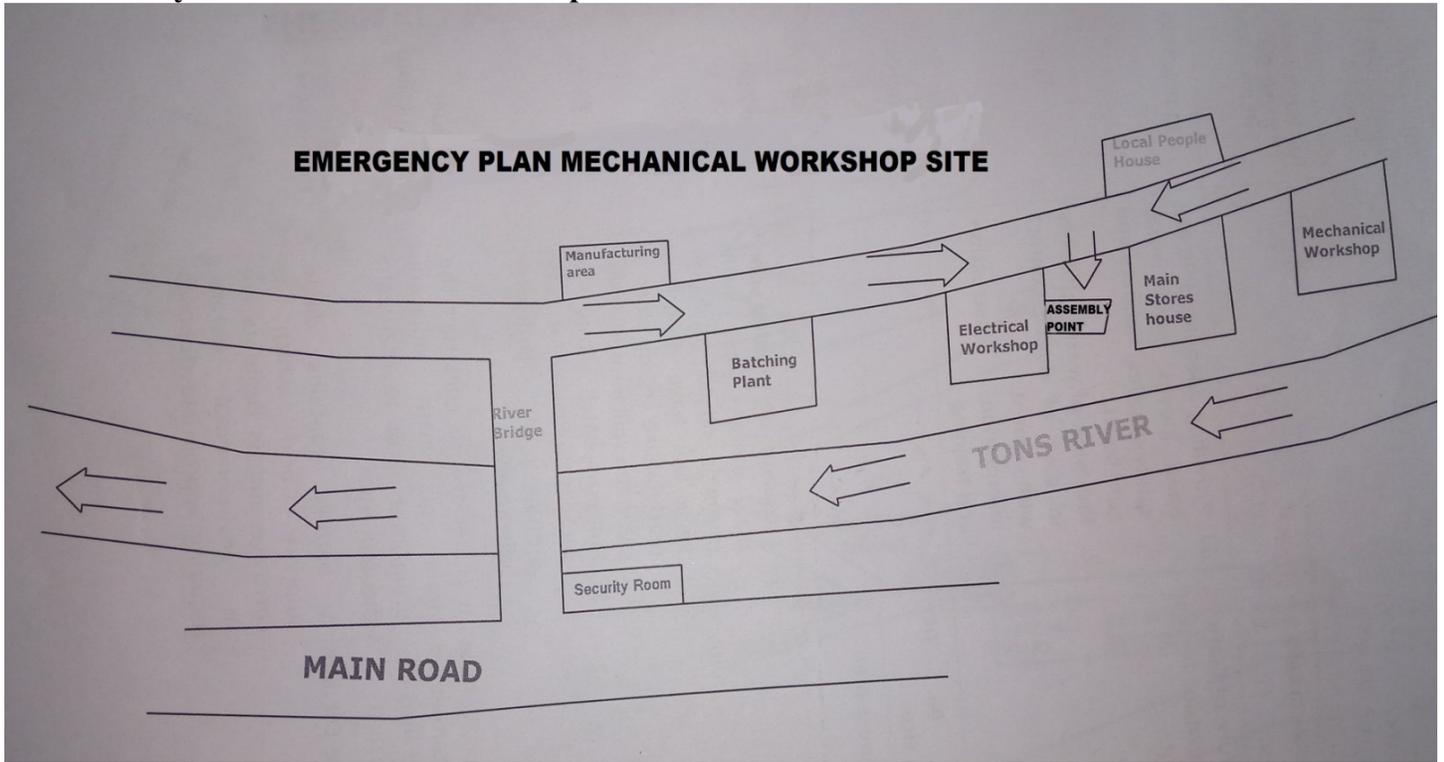
### Assembly Point Power House



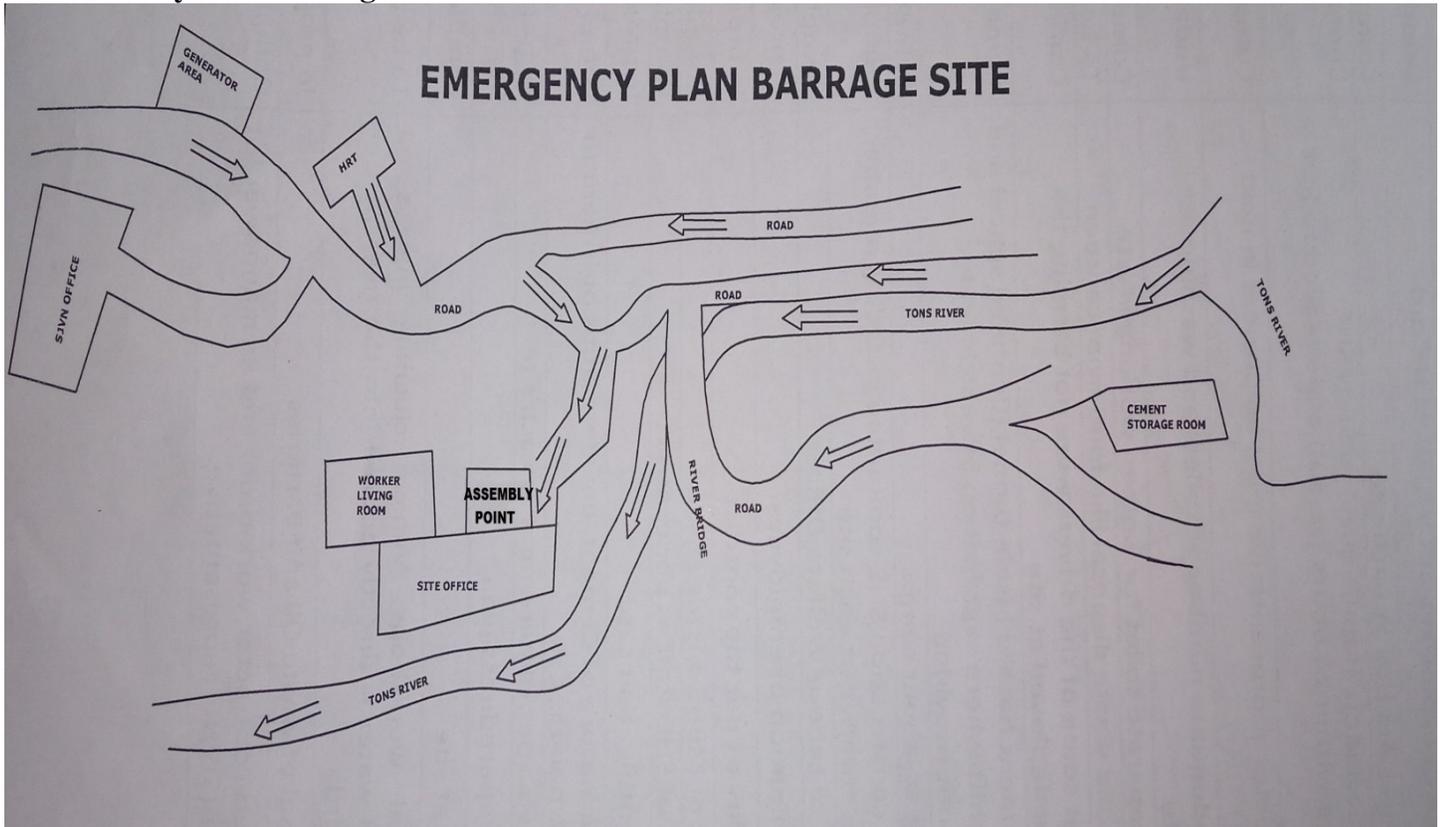
### Assembly Point Adit-1



### Assembly Point Mechanical Workshop Area



### Assembly Point Barrage Area



## 2.5 Emergency stands by name list and contact details

### Site safety and emergency stand by name list

The following persons have been appointed to be our representatives on site for all site safety emergencies

Name of Representatives	Position	Home Tel. No.	Mobile No.
Shri Krishna Kumar Sati	G. M.		9675482975
Shri P.C. Diwvedi	G. M.		9653080822
Shri Col. S.K. Sharma (Retd)	Sr. G .M. (P&A)	9675476965	6395227600
Shri Ajay Kumar Pant	A. G. M.		7088771155
Shri Akhileshwar Singh	Dy. G. M.		9490568881
Shri N.B. Singh	Dy. G. M. (Elect)		9456391155
Shri Y.N. Yadav	Dy. G. M.		9491616920
Shri Ritesh Kumar Singh	Sr. Manager		8004297327
Shri V.P. Singh	Sr. P. E.		7376802270
Shri B.K. Pandey	Sr. P. E.(Survey)		7505774087
Dr. Swasti Ranjan Parida	Sr. Field Medical Officer		7008666619
Shri Shahrukh Siddiqui	Officer (Safety)		7905210013
Shri Rajeev Gaur	Officer (P&A)		6394899947
Dr. Farhaz Khan	Govt. Hospital Mori	9761956406	9456396390
Dr. Nitesh	Govt. Hospital Mori		8755956590
Shri Chaman Lal	Tehashildar Purola/Mori		7906340535
Shri Deen Dayal Singh	SHO (Police Station) Mori		9411721551
Shri Abdul Zabbar Khan	Govt. Fire Department Barkot		7520015454
Shri Nand Lal	Security In-charge		7579200579
Shri Amit Vikram	Jr. Compounder		9473530738
Shri Pavendara	Jr. Compounder		9528248345

## **2.6 Inventory Resources**

### **a. Disaster management Kit and First aid kit**

Developer would prepare a disaster emergency kit which would consist of:

1. Battery operated torch
2. Extra batteries
3. Battery operated radio
4. First aid kit and manual
5. Candles and matches in a waterproof container
6. Knife
7. Chlorine tablets or powdered water purifiers.
8. Can opener
9. Essential medicines
10. Thick ropes and cords
11. Sturdy shoe

### **b. Do's and Don'ts for Disasters**

#### **A. Fire**

1. Alert Alarm or Siren system
2. Do not panic; keep calm, think and act quickly
3. Activate the manual fire alarm system provided on the floor to raise alarm
4. Report to security management
5. Summon the fire brigade on telephone No. 101
6. Alert the people in the vicinity of fire
7. Do not take shelter in the toilet
8. Fight the fire only if you can. Do not take undue risk
9. Crawl, in case you encounter smoke

#### **C. Floods**

The concerned authority should take the following measures as soon as they receive flood warning:

- Alert Alarm or Siren system
- Closing of sewer wells
- Torch
- Batteries
- Emergency light
- Acquiring sufficient food material and potable drinking water
- Maintenance of First Aid Kit

### **Measures after Floods**

- During floods, incidence of water borne and vector-borne diseases increases. Hence all the staffs and members of the society would be advice to undergo a thorough medical checkup for betterment of their health.
- All the underground and overhead tanks must be cleaned and disinfected. This must be carried out in presence of qualified staff. Developer

## ***D. Earthquake***

### **If one is outdoor at the time of earthquake**

- Alert Alarm or Siren system
- If open space is available nearby, go there
- Keep away from tall chimneys, buildings, balconies and other projections
- Do not run through streets; hoardings or lamps may fall

### **If one caught indoors at the time of an earthquake**

- Be calm
- Stay indoors until the shaking stops
- Stay away from glass windows, doors, cupboards etc
- Stay away from falling plaster, bricks or stones
- Get under a table so that one does not get hurt by falling objects
- Do not rush towards the doors or staircase. They may be broken or jammed

### **Avoid the following in an earthquake**

- Do not crowd around damaged areas or buildings
- Do not waste water. It will be needed for fire fighting.
- Do not move the seriously hurt people
- Wait for medical help to arrive

### **After an earthquake**

- Check if anyone else is hurt. Use first aid at least on the cuts and bruises
- Keep the streets clear for emergency services
- Switch off all appliances like the refrigerator, TV or Computers
- Turn off the gas
- A battery operated radio would aid in receiving important messages
- Use the stairs, not an elevator
- Listen to a portable,
- Watch out for fallen power lines or broken gas lines, and stay out of damaged areas
- Stay out of damaged buildings. Damaged buildings may be destroyed by aftershocks following the main quake
- Be alert for and observe official warnings
- Do not smoke; smoking in confined areas can cause fire

# 1. First aid in Emergency

## 3.1 First-Aid

First aid is the immediate care given to a person who is injured or ill. Sudden illness or injury can often cause irreversible damage or death to the victim unless proper care is initiated as soon as possible.

The primary purpose of first aid is to:

- Care for life-threatening situations
- Protect the victim from further injury and complications
- Arrange transportation for the victim to a medical facility
- Make the victim as comfortable as possible to conserve strength
- Provide reassurance to the victim

## 3.2 First aid kit

### a. Tips for making First aid kit

Container To keep all first aid items in one common container. Gauze Pads -To cover wounds and prevent infection. Roll Bandage -To stabilize strains and sprains and cover wounds. Triangular Bandage -To cover wounds and prevent infection . Bandages -To stop minor bleeding and prevent infection. Adhesive Tape -To secure bandages to wounds. Antibacterial Ointment - To prevent infection on small cuts. Calamine Lotion -To prevent itching. Soap -To clean minor wounds and cuts and to prevent infection. Latex Gloves -To protect the rescuer from infection and blood pathogens. Bandage Scissors -To cut gauze and bandages. Tweezers -To pull splinters. Moleskin -To protect blisters and prevent infection. Antiseptic lotion - To prevent infections. Analgesic - Pain killer Anti-inflammatory - pyretic/ painkiller.

### b. Steps to make a first aid kit

The following points need to be addressed before making a first aid kit:

- Identify how kit will be used and where it will be kept (determines size and type of container).
- Analyses what type of injuries are expected (determines what to carry).
- Select and obtain the bag, box, or container for the kit.
- Obtain the contents, repackage them if necessary, and pack the kit.
- Establish where extra items are kept to restock the kit.
- Make up an inventory list. One copy with the kit, one copy with the troop.
- Show everyone the kit, what is in it, and how to find/use the contents.

### c. What should be in first aid kit

We recommend the following items must be in kit essentially:

- Coban - Also called selfadhering bandage.
- Carry the 1/2 inch size and one larger size like 2 or 3 inch. Once applied it keeps most dirt out, is flexible, and will stay on if wet. Very useful for use in the outdoors.
- Wound wash - How about a small bottle of contact lens saline solution? It is near sterile and can be used to wash a cut or rinse the eye.
- Gloves - Carry medium and large size, which should fit just about everyone. Replace them periodically if they age and break down.
- Antibiotic - Carry the triple antibiotic type.

- Band Aids - Have both small and large sizes. Check them periodically, as they will age and become unusable.
- Gauze Pads - You can purchase the "semi-sterile" type that come in bulk packages. Transfer them to plastic bags to put in the kit. 4x4 inch and 2x2 inch are useful sizes.
- Ace Bandages - Also called elastic bandages. You may need the 3 inch size for wrists and the 6 inch size for larger joints.
- Triangular Bandages - They can be used as slings, dressing, and ties for splints
- Scissors - Obtain an inexpensive pair of small medical scissors. It cuts bandages, ties, tape, clothing, whatever. Very useful to have.
- Mouth Barrier Device - We recommend a pocket mask type...the one that comes in a hard plastic case.
- Small splints - A few wooden tongue depressors or popsicle sticks work as finger splints, scrapes, or as a tongue depressor.
- Side cutters (pliers) - If you are active with fishing activities this is needed to cut fish hooks.
- Thermometer - Good to know just how high the fever is.
- Aspirin - You can carry this in the kits for cardiac issues.
- Ibuprofen - Used for ailments such as joint and muscle pain, etc.
- Chap stick - Dehydration can lead to cracked lips.
- Throat Lozenges - Helpful for a sore throat.
- Antacid - Helps with some of that camp cooking or for stomach illness or disorder.
- Sanitiser - In the field a quick way to wash up before and after treatment.
- Soap - J and J shampoo mixed with water works well to clean cuts. Small soap bars are available in the travel section.

### 3.3 Elements of Training in first aid



## **a. Teaching methods**

Training programmes should incorporate the following principles:

- Having appropriate first-aid supplies and equipment available;
- Exposing trainees to acute injury and illness settings as well as to the appropriate response through the use of visual aids;
- Including a course information resource for reference both during and after training;
- Allowing enough time for emphasis on commonly occurring situations;
- Emphasising skills training and confidence-building over classroom lectures;
- Emphasising quick response to first-aid situations.

## **b. Assessing the scene and the victim(s)**

The training programme should include instruction on the following:

- Assessing the scene for safety, number of injured, and nature of the event;
- Assessing the toxic potential of the environment and the need for respiratory protection;
- Establishing the presence of a confined space and the need for respiratory protection and specialized training to perform a rescue;
- Prioritising care when there are several injured;
- Assessing each victim for responsiveness, airway patency (blockage), breathing, circulation, and medical alert tags;
- Taking a victim's history at the scene, including determining the mechanism of injury;
- Performing a logical head-to-toe check for injuries;
- Stressing the need to continuously monitor the victim;
- Emphasising early activation of EMS;
- Indications for and methods of safely moving and rescuing victims;
- Repositioning ill/injured victims to prevent further injury.

## **c. Responding to Life-Threatening Emergencies**

The training program should be designed or adapted for the specific worksite and may include first-aid instruction on the following:

- Establishing responsiveness;
- Establishing and maintaining an open and clear airway;
- Performing rescue breathing;
- Treating airway obstruction in a conscious victim;
- Performing CPR;
- Recognising the signs and symptoms of shock and providing first aid for shock due to illness or injury;
- Assessing and treating a victim who has an unexplained change in level of consciousness or sudden illness;
- Controlling bleeding with direct pressure;
- Poisoning;
- Recognising asphyxiation and the danger of entering a confined space without appropriate respiratory protection. Additional training is required if first-aid personnel will assist in the rescue from the confined space.

### **3.4 Conclusion**

Many deaths and impact of injuries can be prevented with First Aid if casualties are treated immediately. First aid is the initial care given to an injured person. Mostly, this timely care prior to the arrival of the medical help means the difference between life and death.

It must start immediately when the injury or illness occurs and continue until medical help arrives or the casualty recovers.

**The basic aims of first aid are:**

- To save life
- To protect the casualty from getting more harm
- To reduce pain and
- Priorities of Casualty Treatment