

**OUTCOME FROM THE LEARNING OF MOCKDRILL**

S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
1	Unauthorized Entry at Mines.	1.Unauthorized Entry at Mines. 2.Shift Supervisor called Manager and informed about the above situation immediately. 3.Manager immediately informed C.I.S.F. and Mines Official to reach View Point. 4.Within 10 min CISF, Mines Official and Manager himself reached. 5.Unauthorised person was hold by C.I.S.F. and immediately. Rushed to outside of Lease hold area of East Bassuriya Colliery.	1.Supervisors were not having the phone No.of C.I.S.F.person.	1. Emergency contact list of CISF to be displayed digitally (WhatsApp group). 2. Installation of CCTV camera at view point, Mines office and CISF Office.
2	Out break of Fire (Tipper/Dumper) Volvo.	1.Members of emergency organisation came for the site within 18 Minutes. 2.Members of emergency organisation working within in the Mine came to the site Within 12 Miinutes. 3.Rescue trained persons of the Colliery came within 10 Minutes.	In the Tipper fire extinguisher was found portable type of 2 Kg capacity of DCP type	Fire extinguisher's in the Tipper should be automatic type fire detection and suppression system (AFDSS)At least semi automatac type fire detection and suppression system of fire extinguisher of DCP type atleast 10 Kg of capacity should be instated in the Tipper. Hired Patch management should arrange proper type of Fire extinguisher.
3	Safe withdrawal of all persons from 1 seam section of NAKC in Emergency situation due to the surface water inundation.	Mock drill started on dated 11/06/2022 at 2.30 pm and end at 3.15 pm with safe withdrawal of all persons from 1 seam section of NAKC.	Some of the persons did not use the escape route.	For the efficient flow of information in any Emergency situation modern and efficient telephone communication system from surface to every working place in underground is required for better communication.
4	Abnormal water increase in 2 seam Kesalpur Section AKWMC.	Emergency declared by Sri Subal Kumhar, Mining Sirdar at 11:24 AM of 2 Seam Kesalpur section of AKWMC. Response time 11:40 AM to 11:55 AM.	Emergency siren not functioning well.	Preparedness for dealing with emergency situation at any time
5	Inundation of surface water in OCP.	1.Telephone messages given by jore guard to attendance clerk and sift ACM/Overman at 9:00 AM 2. Telephone Message given by Shift ACM/Overman to Safety officer/ Manager/Engineer and Agent also at 09:05AM 3.Telephone message given to pump operator for shut down the operation and take safe place and same time massage given to Hired patch site incharge to evacuate all machine at safe place at 09:10AM. 4. Shift Electrician/ Supervisor informed by ACM/Engineer for blown the siren 10 times for knowing Emergency 09:15 AM. 5.Site incharge of Hired patch informed to Manager regarding allmachine reached at safe place 09:22 AM after that Manager declared it as Mock drill.	1. Poor communication. 2. Old age person provide in guard. 3. Lack of supervisor.	1.Proper communication system should be arranged. 2. Skilled and young person should be provided in jore guard. 3. Arrange of supervisor.
6	Explosion in underground	1.Workers observed the fire and inform the sectional overman and mining Sirdar (8 mins). 2.Overman informed the surface control foom, any officers in U/G and other district (5 min). 3. Overman evacuated all the workmen to the safe place and ensured all workmen were at safe place.(30 mins). 4. Onsetter inform the banksman, T.K. Incharge95 mins). 5. Banksman informed T.K. Incharge and restrict personto u/g (6 mins) 6. TK Incharge informed the Chief Manager, Safety officer and Colliery Engg. (12 mins) 7. TK informed for ambulance (2 mins) 8. RTP collect with fire lighting and rescue equipment to proceed. (20 mins)	None None Housekeeping of the escape route was not good None None T K not informed the union officials. None None	Housekeeping or escape gallery was improved.
7	Electrocution	1.Information given by the helper of electromech to overman that electrocution took place to the fitter while maintenance of controlling switch (5 min.). 2.Overman informed the surface control room ,any offices in U/G and other district (10 mins.). 3.TK was informed by overman and he informed AM,VO,SO,Manager and all the rescue trained persons ambulance and doctor (10 mins.). 4.Onesetter levelled the cage after getting information from overman(10 mins.). 5.Injured person was taken to FA station and was given to FA by first aider (20mins.). 6.SO,VO,AM,Manager,rescue trained person to the pit top (15 mins.). 7.Injured person was brought to pit bottom on stretcher (10 mins.). 8.Ambulance reached in to colliery and injured person was taken to hospital (15 mins.)	1.None 2.None 3.Idle pipe was stacked in Min travelling pathway 4.None 5.None 6.None 7.None 8.None	1.Obstruction of travelling pathway/Ecape route gallery was improved.

8	Inundation at MAP3 incline.	10.30 AM. Sr. Overman Sri S.K.Bharti of MAP 3 incline given information via special Messenger to pump operators and M/S of SED/32L to come surface as there is heavy inrush of water from east side to pumping station. He also passes the information to the Manager ,SO ,ACM incharge of mine over mobile. 10:35 AM Manager passes the information of inundation to MRS Dhansar,ISO BCCL,Regional hospital Loyabad & Tetulmari police station. 10:40 AM control room was formed at surface and activated. Attendance of work person coming out to surface were taken. 11:25 AM MRS team reached the control room and reported and all workman came out at surface. 11:35-All agencies who were informed were attended the MAP3 incline. 11:45AM it was declared by Manager Sri Sanjoy Nanda,That it was a mock rehearsal.	Travelling roadways have improper lighting and steps.	To provide proper lighting and steps roadways so that evacuation process in urgent situation could be rapid.
9	Float Alarm rung at surface of Deep Mine as the withdrawal level (130.92RL) at Fitter Plant of River Damodar	Immediately after receiving the information that the water level of River Damodar touches the withdrawal level the attendance clerk/Pit manager of Upper seam informed Asst. Managers and all Supervisors in underground to evacuate the Man power from all section of the Mines immediately. The process of evacuation of Manpower took 35 Minute.	The Shortest route for evacuation of Manpower from 17 spl seam was not followed.	The shortest possible route should always be followed during such type of emergency to evacuate the mines.
10	Inundation	1.Information sent to key persons of Badjna Colliery (Agent, Manager, Safety Officer, Surveyor, JCC Member, Safety Committee Member and others) within 5 min. 2.All key person reached at Control room within 15 min. 3.All key person of Area (General Manager, Additional General Manager, Area Safety Office Area Survey Officer, etc were informed within 10 min. 4.All the trade union representative and other concern person/department were informed within 15 min. 5.All the key persons of area and other concerned Persons reached the Control Room within 25 min. 6.Manager were inspecting nearby reached the control room, assessed the situation, verify the information and declare emergency and accordingly inform Agent Area GM, DDMS, ISO, Rescue Room	1.Non Arrival of OSF and Nirsha Thana. 2.Out of 09 only 08 members of Colliery joint constitutive committee had reported even after one hour of declaration of emergency despite getting information in time. 3.Some work persons were found non conversant about the mock drill.	1.Overman/Shift incharge person below ground should have to take decision of taking out persons without waiting for manager's instruction because he is one who is directly watching the situation. A special training based on different emergency situations and situational based decision taking should be imparted to the frontline supervisors/executives. 2.CISF role to be expedited for effectively coordinating the activities at site to facilitate emergency dealing free from any obstruction. 3.SORF/NDRF/District disaster management department would be more effective as per recommendation of higher authorities.
11	Chances of drowning of pump fitter at sump.	Emergency Response team reached the site 5 minutes late from the scheduled time. Mock drill was successful.	There was lack of supervision.	1. Sincere supervision should be at all work place including the sump. 2. All pump fitters should be aware of SOP regarding pumping.
12	Mock Drill was conducted based on fire fighting in Dumper No. 60387	1.Mock Drill was conducted smoothly. 2.Fire extinguisher availability and proper use make the job easy. 3. Timely response of officers and employees. 4. Better co-ordination and timely response against fire.	There should be proper supervision of dumpers to check the harness and wiring at regular interval and training to dumper operators to deal with fire promptly.	1. Proper training should be given to workers and supervisors about fire fighting. 2. Safety talk and awareness needed to follow guideline in case of HEMM fire. 3. Demonstration to deal with fire should be done on regular basis. 4. Regular checking of fire extinguisher for its better functionality.
13	While operating the pump switch in the Qry. 03, the pump operator got electrical shock and become unconscious. He was rescued and shock treatment was given and brought to area hospital by ambulance.	To proper follow the SOP during operating the switch.	There should be proper super vision to use PPE while operating the switch.	1. Proper training is needed to use switch. 2. Safety talk delivered. 3. Always use rubber hand gloves when operating the pump switch.

14	Accident happened due to no use of proper shelter during blasting operation.	2:36 PM : Accident time is Blasting time . 2:39 PM : Blasting team (overman), blasting officer and two crew members) went for inspection. 2:44 PM : Blasting crew heard yelling of person for help. 2:45 PM : Blasting crew reached spot. Emergency response team was quick to arrive mainly because of the blasting crew members like Overman & Blasting Officer are integral part of emergency team. 2:46 PM : The person was analyzed by overman. He was hit by flying rocks on his legs. However, he was conscious. First Aid was given to the person on the spot by the Blasting Officer who was on the spot, in the meanwhile, asked MTK on surface to arrange for sending stretcher & accessories on the spot and alert for rushing of ambulance. 2:49 PM : MTK arranged to send stretcher, water, blanket & First Aid Box in a bolero which was standing on surface at pit office during blasting. MTK informed ambulance driver of the mine dispensary located at approx. 1 km from pit office. MTK spread information of emergency. 03:01 PM : Bolero with stretcher reached the spot. 03:13 PM : Bolero with person and helper (Overman) reached pit office/surface, where ambulance had arrived. 03:15 PM : Ambulance started off from Pit Office. 03:22 PM : Ambulance reached hospital.	1. The incident is very likely happen in case of no use of blasting shelter during blasting. 2. The person involved in the incident shall not take shelter under a big rock (lying on flat surface) thinking it to be sufficient enough for providing safety from flying rocks coming from the direction of blast. 3. The fly rock may hit the person (even though he thinks it is sufficient enough to hide under a big boulder/rock mass), as it may come from the direction opposite to blast after hitting bench face of the mine workings. 4. The fly rock may also be a result of face preparation, watery holes, jammed face, and even though guidelines like charge per delay & charge per round are followed religiously.	a. Ambulance shall be stationed at Pit Office. b. Blasting crew/miners shall be made aware of the significance of blasting shelter. c. Unsafe practice like hiding under rock mass etc. shall be avoided. d. Blasting overman & blasting officer shall take clearance from all places before blasting. e. Sufficient number of blasting shelters shall be provided. f. Emergency Response team shall be well prepared for any kind of incidence.
15	Mock drill was conducted on abnormal seepage of water at 23 EL near pump station.	1. The activity of mock drill was conducted very smoothly. 2. Abnormal leakage of water detected near pump station at 23 EL. 3. The shift supervisor immediately informed by Pump Khalasi. 4. The spot was immediately inspected by the shift supervisor and the person working near the pump station was immediately evacuated and informed to the Superior Official. 5. The Superior Official was instructed to immediately fence the place and cutoff the power of pump. 6. The power of pump was immediately cutoff and the place was fenced properly.	1. The duty card of emergency was not available to the concerned person. 2. Pump Khalsi had not carried life jacket. 3. Safety lamp was not found at Pump station.	1. The duty card of emergency should be available to the concerned person. 2. Pump khalsi must carry life jacket. 3. Safety lamp should be available at pump station.
16	How to protect a drowning person by life jacket during foot valve changing.	Life jacket was available at shelter near sump. Person wore safety belt during the changing of foot valve.	Approach Road towards east side sump is suitable for bolero to reach sump point.	a. Trained in swimming person shall entering in sump. b. During entering in sump water, manpower shall wear life jacket. c. Road shall be ready for all type of vehicle.
17	Chances of drowning of pump fitter at sump.	All members of emergency response team reached the site within 20 minutes.	There was lack of supervision.	1. All the pump khalasi and fitters should be aware of SOP regarding pumping. 2. No person should enter into the sump without wearing life saving jacket. 3. All operations regarding pump maintenance, checking and fitting will be carried out under the supervision of Foremen or Engineer.
18	Mock rehearsal for fire	Overman smelled the coal tar like smell of gas from the goaf and considered that fire had broken out. He immediately gave horn and all worker took shelter in minor station. He then reports to surface by audio that fire had broken out. The MTK report to safety officer and the manager about the occurrence. After getting information then ambulance reached to the mock rehearsal place within 45 minutes.	Training for withdrawal of person and taking shelter at the time of emergency.	Always take alertness at the goaf area and old working which is not sealed properly.
19	Mock rehearsal for Inundation	Mining sirdar was informed about the increasing water level which was posing a threat to pumps.	Regular monitoring should be done so that it could be avoided in time.	Regular inspection of pumping station and sump should be conducted.
20	Mock rehearsal for Electrical accident	Mining overman was informed about the accident in which an SBA got electrical shock while he was taking a shutdown of the TSU. He immediately arranged for the first aid and informed the MTK at surface so that further arrangements could be made in time. The MTK report to safety officer and the manager about the occurrence . After getting information the ambulance reached to the Mock rehearsal place within 5 minutes and the injured person reached the surface within 30 minutes of the accident.	It should be observed that proper PPE is being worn during any electric working.	Always be aware and take alertness while performing any kind of electric workings.
21	Fracture injury to fitter by hammer while working at workshop (excavation)	1. On information supervisor immediately gave first aid available at workshop and arranged his (Injured person) safe transportation on stretcher available at first aid room (less than 100m distance) to medical. 2. Use helmet prevents incident from fatal injury. 3. All concerned officials, ambulance and medical team reached the site within 15 minutes of information.	1. Some workmen are unaware of first aid treatment in case of fracture injury. 2. Some workmen are negligent towards use of helmet at workshop.	1. Training and awareness regarding first aid treatment should be promoted. 2. Zero tolerance for workmen not using PPEs on workplace.

22	Fire in EKG 560 working at OB bench (fire broken out due to short circuit in EKG 560)	Sufficient portable fire extinguisher are made available near EKG 560 shoval. Response time All Officials, ambulance and fire tender reached the site of mock drill within 45 minutes after getting information.	1. Two water tanker reached at the site, out of two only one water tanker has fire fighting arrangement. 2. Response time to be improve. 3. Siren of the mines used as indication of emergency is posted near drill parking stand - this is to be shifted to near of the face.	1. Always park water tanker completely filled with water, so that it can be used at the time of emergency. 2. Everyone to make aware of the fire fighting plans and use of fire extinguisher.
23	In the office campus, fire in dry vegetation.	Sufficient number of fire extinguisher (ABC type), fire bucket filled with sand and sufficient water in the tank was available nearby to combat fire. Response time: After getting information all officials, First Aider, firefighting team, Ambulance and reached to the place of Mock rehearsal within 45 minutes.	1. Training related to proper use of fire extinguisher and firefighting should be provided. 2. Water tanker filled with water and pressure hose, sand bucket, water bucket should be ready to use.	1. Dry vegetation, dry leaves etc should be cleaned regularly to prevent accumulation. 2. Response time should be lesser.
24	Fire has broken out in Excavator (Shovel) at Outsourcing patch	Mock drill conducted at the outsourcing patch of M/s Bhagwati Raj Rani Venture where fire has broken out in the excavator during loading of OB by the operator Sri Som Raj. He immediately informed to the supervisor and the supervisor informed to MTK. He informed about the fire to Project Officer Manager, Safety officer and other senior officials. Fire tender, water tanker and ambulance also informed/arranged. Response Time: All the officials, water tanker, ambulance, fire tender reached at the site within 18 min after getting informed.	Leakages of hydraulic oil found in the shovel.	Special training to be given to the worker to deal with broken out fire.
25	Drowning of Pump Khalasi at 9 No. while cleaning of Foot valve	A pump operator getting sunk in the 2nd shift at 5:00 PM while cleaning of Foot valve. On getting information about the sinking of pump operator supervisor immediately informed to MTK. Then MTK informed Project officer, Manager, safety officer PE (E&M), PE (EXC), Ambulance and other senior officials. Response Time : All the officials, ambulance, arrived at the site within 15 min after getting informed.	Life jacket not available in the rest shelter.	Pump Khalasi and fitter were told to use life jacket while on duty.
26	Electrical shock to SBA at 12 No. sub-station.	While cleaning switches at 12 No. sub-station SBA got injury due to electrical shock at about 10:00 am 1st shift Foreman electrical as available at 12 No. sub-station informed Colliery Manager Project Officer, Project Engineer (E&M) and Ambulance Driver. Response Time- All the senior mine officials arrived at 12 No. sub-station within twelve minute after getting information.	Rubber mat not available at 12 No. sub-station.	Special training and awareness program shall be conducted to make them fully conversant to deal with situation.
27	Serious injury to Cat 1 Gen. Mazdoor First Aid & transport to hospital.	1. Information given by Overman to attendance clerk 2. Attendance clerk given information to Manager, Hospital & PO. 3. Manager along with other officials rushed to the site within 5 minutes. 4. Immediately First Aid has been given by Overman. 5. Ambulance arrived within 20 minutes on site. 6. Project Officer directed to the Hospital in charge to be prepared immediately after getting information.	First Aid successful & Conveyance through Ambulance successful.	-
28	Release of Gas	1.Supervisors were timely informed by workers. 2.U/G Official and Overman timely informed the surface officials, other district & control room and evacuated the workers to safe place. 3.Onsetter timely informed Pit bottom area, banksman& time keeper. 4.Banksman timely informed attendance clerk and restricted persons to underground. 5.Attendnce Clerk timely informed Safety officer, Manager, Agent and Colliery Engineer.5.Rescue Personnel timely proceed for recovery(18 Min)	1.None. 2.Some unwanted materials were found in escape route. 3.None. 4.NoneEvacuation of workmen to safe place. 5.None.	1.Escape route to be made clear. 2.Awareness training to attendance clerk to be provided to aware about his duties and responsibility during emergency situation.
29	Inundation in underground	1.Information to all officials and key personnel of the mine and RTPs from u/g through attendaneclerk.well within time. 2.Information to medical services and arrival of ambulance and other officials. 3.Withdrawl of persons from work places safely in time. 4.Approach to the site of dam through 2nd level was slightly late(2 minutes). 5.Attendnce Clerk timely informed Safety officer,V O, Asst. Mgr., Mine Manager and Agent. 6.Rescue Personnel timely proceed for recovery.	1.There was 2 minutes delay in reaching to dam area. 2.There was 2 minute delay observed in checking of persons evacuated to surface.	1.Cleaning of drain to be done to prevent scattered water flow across gallery. 2.Awareness to attendance clerk for timely execution of the job.

30	Fire	On dated 02/06/2022, at about 10.15am Attendance clerk Sri Meghnath Singh was informed by Sri Manoj Singh, Mining Sirdar through special messenger, Sri Sarwan Kumar, pump opr. Of 4 seam working that smoke was coming out from cable of the pump at 0 dip 18 level and Mining Sirdar is coming out of the mine with all worker after inspection. After getting this information attendance clerk informed Caplamp I/C TilakdhariTuddu and asked him not to issue any caplamp till further orders from the Manager. The attendance clerk informed safety officer, Sri Rohit Kumar, who was present at attendance room Block-IV OCP, about this incident at 10.18 AM through telephone. Safety Officer reached the Mine at 10.25 AM. Safety Officer then reported the Manager Sri B. D. Ray about the incident at 10.30 AM. Manager after receiving the information reached the Mine at 10.35 AM. Manager at 10.40 AM informed Engineer (E&M), Project Officer, Sri K K Sinha, Area Medical Officer, Workmen Inspector (Mining), Workmen Inspector (Electrical) and Rescue trained person Sri Ratan Kumar about the incident. Engineer (E&M) ordered to cut the electrical supply of underground at 10.42 AM. Mining Sirdar, Sri Manoj Kumar reached control room (Attendance Room) at 10.45 AM with all workmen and reported that the fire may be a cause of short circuit at pumping cable and it was dealt using DCP type fire extinguisher placed near pumping station. Project Officer reached the mine at about 10.47 AM and was informed about the dealing of the incident. This was a mock rehearsal and all the above incident were briefed by Project Officer to Area Safety Officer and MRS, Dhansar.	1. The means of communication from IV Seam Attendance room to U/G section should be in proper working condition. 2. Safety feature of all electrical equipment's must be in order. 3. Emergency Response Plan should be explained properly in all shifts	1. The means of communication from IV Seam Attendance room to U/G section should be in proper working condition. 2. Safety feature of all electrical equipment's must be in order. 3. Emergency Response Plan should be explained properly in all shifts
31	Massive roof fall at 400M.H Loco Lateral Fault Area	Conducted Successfully	1.K-4000 & WEF-6 both Winder were late available (15 Minutes) as it was under maintenance. 2. Late arrival of ambulance due to crowd in Noonidih Market	Both Winders should not be taken for maintenance at same time
32	Safe withdrawal of all persons from 1 seam of Jogidih Colliery in emergency situation due to inundation of old working u/g water of same seam.	Mock drill started on date 24.06.2022 at 11.00 AM and end at 11.30 AM. With safe withdrawal of all persons from 1 seam of Jogidih Colliery.	Some of the persons did not use the escape route.	For the efficient flow of information in any emergency situation, modern and efficient telephonic communication system from surface to every working place in underground is required for better communication.
33	Safe withdrawal of all persons from Sinidih Section of Maheshpur Colliery in emergency situation due to the Surface Water inundation.	Mock drill started on 03.06.2022 at 02.10 PM and end at 2.35 pm with safe withdrawal of all persons from Sinidih Section of Maheshpur Colliery.	Some of the persons did not use the escape route.	For the efficient flow of information, in any emergency situation, modern and efficient telephonic communication system from surface to every working, place in Underground is required for better communication.
34	Withdrawal of man power from faces, including 14 seam dip, to Main intake at J-1 shaft level at 14 seam in response to the Audio Visual Alarm of the tele monitoring station no. 5, located at J-3 shaft level at 14 seam (Main return) getting actuated.	On 21.05.2022, in Shift a, the AVA of the tele-monitoring stations no. 5 located at the Main Return of 14 seam was intentionally made to get actuated with calibration Co gas, at 12.05 pm by the V.O(J). Immediately on hearing and seeing the AVA of station no. 5 getting actuated the on setter of J-1 shaft at 14 seam immediately informed Sri N.K. Singh, Assistant manager & Section I/C Block 14(T) & 14 seam dip section and acting Section I/C 14 seam rise section. Sri N.K.Singh informed all concerned of 14 seam dip section for withdrawal of persons, deployed under them, upto the main intake at Noonidih Shaft level at 14 seam and J-1level at 14 seam respectively. All the persons of 14 seam rise section and that of 14 seam dip section collected at the main intake at Noonidih Shaft level at 14 seam and J-1 shaft level at 14 seam respectively at 12.45 pm and 12.50pm respectively.	The total time that elapsed from the time of actuating of the AVA of No. 5 tele-monitoring station and the time of the last man collecting at main intake at Noonidih Shaft level at 14 seam and J-1 shaft level at 14 seam respectively took 40mm & 45 min. respectively. Since the AVA was intentionally actuated hence the reason of the actuation of the AVA was known, therefore, persons we not raised to surface.	The total time interval between actuation of the AVA of No. 5 tele-monitoring station and final person collecting at the main intake at Noonidih shaft level at 14 seam and J-1 shaft level at 14 seam respectively requires to be decreased.
35	Equipment Fire	Conversation was not clear due to panic and location is not properly communicated.	Spread of Lubrication on Equipment Surface.	Clear cut conversation, location and reason should be properly communicated.
36	SPONTANEOUS HEATING	REPORTING TIME- 3.00 PM, RESPONDING TIME- 3.10 PM, ALL REACHED SURFACE- 3.40PM, EVACUATION TIME- 40 MINUTES.	1. MOCK DRILL HAS BEEN DONE IN SMOOTHER MANNER. EVERYONE RESPONDED AS PER EMERGENCY RESPONSE PLAN THROUGH THE ESCAPE ROUTE.	NIL
37	Spontaneous heating	1.Initially there was panic occurred but after knowing the actual situation , it was normal. 2.All key persons, attendance clerk, PSC members ,Trade union representative and Rescued trained person respond in timely. 3.Withdrawal time of the all persons was 35 minutes.	1.Mock drill has done in smooth manner. 2.Withdrawal timing could have been decrease by 10 minutes.	NIL
38	INUNDATION FROM SURFACE SOURCE	REPORTING TIME- 3.00 PM, RESPONDING TIME- 3.10 PM, ALL REACHED SURFACE- 3.40PM, EVACUATION TIME- 40 MINUTES	MOCK DRILL HAS BEEN DONE IN SMOOTHER MANNER. EVERYONE RESPONDED AS PER EMERGENCY RESPONSE PLAN THROUGH THE ESCAPE ROUTE	NIL

39	Regarding Inundation	1.Initially slight panic occurred , but Mine officials controlled the situations immediately and response time is 15 minutes and withdrawl of persons done within 40-50 minutes. . 2.All key-persons including Mine Officials, Attendance Clerk, PSC members, trade union eprentatives and rescue trained persons responded timely and reached within 30 minutes..	1.Mock Drill has been done successfully. 2.Withdrawl Timing could have been reduced by 10 to 15 minutes.	NIL
40	INUNDATION FROM SURFACE SOURCE	1.Initially there was panic occurred but after knowing the actual situation , it was normal 2.All key persons, Attendance cler, PSC Members, Trade Union Representative and Rescue Trained person responded timely 3.Withdrawal time for all the person was 70 minutes	1.Mock drill was done in smooth manner 2.Withdrawal timing could have been decreased by 20 minutes.	NIL
41	INUNDTION IN UNDERGROUND PART OF MINES	REPORTING TIME- 02.40 PM, RESPONDING TIME- 02.45 PM, ALL REACHED SURFACE- 3.10PM, EVACUATION TIME- 30 MINUTES	CDS System to be improved	NIL
42	SPONTANEOUS HEATING	REPORTING TIME- 02.50 PM, RESPONDING TIME- 02.55 PM, ALL REACHED SURFACE- 3.16PM, EVACUATION TIME- 26 MINUTES	CDS System to be improved	NIL
43	U.G. COAL Spontaneous Heating	1. Initially there was panic occurred but after knowing the actual situation , it was normal 2. All key persons, Attendance cler, PSC Members, Trade Union Representative and Rescue Trained person responded timely 3. Withdrawal time for all the person was 70 minutes	Withdrawal timing could have been decreased by 10 minutes.	NIL
44	Spontaneous Heating	Time taken for withdrawal of all persons working in underground was 25 minutes	After getting information all persons escape from the working district using SCSR.	NIL
45	outbrake of fire at panel -17	1. All workers of the district gatherd in 20 minutes at Miner's Station. 2. All key persons, Attendance cler, PSC Members, Trade Union Representative and Rescue Trained person responded timely 3. Withdrawal time for all the person was 01 Hrs	1. Mock drill was done in smooth manner 2. Withdrawal timing could have been decreased by 15 minutes.	Time elapsed during escape of all persons upto pit bottoome of downcast shaft should be reduced.
46	OB Dump Faliure	1. The information was initiated by Asst. Manager of first shift at about 12.00 noon. 2. All key persons, Attendance cler, PSC Members, Trade Union Representative and Rescue Trained person responded timely 3. Withdrawal time for all the person was 15 mintes	1. Mock drill was done in smooth manner 2. Withdrawal timing could have been decreased by 15 minutes.	The communication process may be improved by using modern communication systme e.g whatsapp group.
47	Mock Drill on Inundation	1. No any panic was observed during the whole process 2. All persons evacuated the mine through the escape route 3. All rescue trained persons from the mine and neighbouring mines reached No.1 Pit on time 4. No any injury occurred during the drill 5.Total time to complete the drill – 55 minutes.	All activity was minutely observed by Manager & Agent and no any shortcoming was observed during the process	NIL
48	INUNDATION.	MOCK DRILL COMPLETED WITHIN 30 MINUTES.	SATISFACTORY( 40 Minutes)	System of communication to be improved
49	SPONTANEOUS HEATING	REPORTING TIME- 03.30 PM, RESPONDING TIME- 03.40 PM, ALL REACHED SURFACE- 04.00PM, EVACUATION TIME- 30 MINUTES	1. MOCK DRILL HAS BEEN DONE IN SMOOTHER MANNER. EVERYONE RESPONDED AS PER EMMERGENCY RESPONSE PLAN THROUGH THE ESCAPE ROUTE	NIL
50	INUNDATION FROM SURFACE SOURCE	REPORTING TIME- 03.30 PM, RESPONDING TIME- 03.40 PM, ALL REACHED SURFACE- 04.00PM, EVACUATION TIME- 30 MINUTES	1. MOCK DRILL HAS BEEN DONE IN SMOOTHER MANNER. EVERYONE RESPONDED AS PER EMMERGENCY RESPONSE PLAN THROUGH THE ESCAPE ROUTE	NIL
51	INUNDATION	When an emergency occurred about the event of inundation happen all the work persons followed the intake path	Ambulance reached on pit top with in 15 Min. with first aid kits and doctor	More SOP should be circulated among driller and explosive carrier.
52	1) Drowning of person into sump 2) Fall of person from bench (Practicing done by NDRF team & Sitarampur MRS team)	Two incidents are reported by S.O. to Manager followed by rescuing of unconscious body (dummy) by Sitarampur MRS team at 9:45 a.m.. Then NDRF team rescued a drowned person (dummy) with help of rafting & diving instrument at 10:50 a.m.. Lastly NDRF team rescued a person who fell from bench by using of rock climbing & pulley instruments at 11:20 a.m.	How to apply first aid with CPRand how to recover a drowned person & person fallen from bench	NIL
53	Slide of OB Dumper	Initially there was panic but after knowing the actual situation, it was normal. All key person responded in time	1. Mock drill was done in smooth manner 2. Withdrawal timing could have been decreased by 05 minutes.	NIL
54	SPONTANEOUS HEATING	1. Initially there was panic occurred but after knowing the actual situation , it was normal 2. All key persons, Attendance cler, PSC Members, Trade Union Representative and Rescue Trained person responded timely 3. Withdrawal time for all the person was 28 minutes	1. Mock drill was done in smooth manner 2. Withdrawal timing could have been decreased by 05 minutes.	All underground work persons should be provided with self rescuer before going to underground

55	SPONTANEOUS HEATING	1. Initially there was panic occurred but after knowing the actual situation , it was normal 2. All key persons, Attendance cler, PSC Members, Trade Union Representative and Rescue Trained person responded timely 3. Withdrawal time for all the person was 40minutes	1. Mock drill was done in smooth manner 2. Withdrawal timing could have been decreased by 10 minutes.	NIL
56	for inundation	all workmens and key personnels are aware of the EREP and emergency responses	contractual workmens are not included	contractual persons are included and alerted
57	Fire	1. All the employee from panel JT-19 came to the surface smoothly. 2. No Panic situation Occurred during withdrawal of persons from JT-19 panel to surface. 3. Withdrawal time of all the persons was 50 minutes.	mock drill was conducted in smooth manner	mock drill must be conducted every quarter so as to remind the employees how to go to the surface without panicking during fire
58	Inflammable gases	All person from the district obey ed the instruction of overman, some people found in panic state. The overman guided with assurance of safety, no injury occurred to anybody during the entire process. It took 40 minutes to withdraw all person from the district.	The mock drill was very successful communication was established at all the places through CDS. The signalling and telephone system are working properly. Response time is quick.	NIL
59	Inundation	Time taken for withdrawal of all persons working in underground was 25 minutes	People get nervous after getting the information of inundation	NIL
60	Sudden inrush of water at Koitsee seam	1. It took 10 minutes to evacuate the district and reach at the pit bottom 2. There was no injury to anyone during evacuation 3. Some person were found in panic state but Sr overman guided them with assurance on their safe evacuation. 4. All the person obeyed the insturction of the Sr. overman 5. As Koitsee is pumping district, so no loss of production recorded during evacuation process	1. Mock drill was done in smooth manner 2. Withdrawal timing could have been decreased by 10 minutes.	NIL
61	Fire	SATISFACTORY( 40 Minutes)	Response time should not exceed 35 min. 02 person reached 10 minutes later.	System of communication to be improved
62	Heavy rain fall at surface	Response time 10 minutes. Withdrawal time-35 minutes. All work person reach safely to surface	Manpower distribution plan not maintained properly.	NIL
63	Sudden inrush of water	Sudden inrush of water	1. Ambulance didn't reach in time. 2. O/M failed to inform Dozer operator working at OB bench (in pit dumping) 3. Water tanker reached late to the site.	1. Ambulance driver shall be readily available in dispensary, so that he can reach within minimum possible delay. 2. O/M shall maintain his mind cool and ensure to communicate all persons present in the mine for any danger including those working at remote location. 3. Water tanker shall be readily available in all respect, so that it can immediately start after getting information.
64	Inundation	Sudden Inrush of water from adjacent canal	Pump Operator left the electrical pump in running condition without informing the electrician and other competent persons.	Proper training and motivation to be given to the pump operator to switch off the pump and inform the electrician to shut down the power.
65	Fire in workshop	Fire broke out in lubricants	Workers left the workshop without dealing the fire.	To motivate the persons to deal the emergency situation and not to panic.
66	Inrush of water into mine due to heavy rain fall	1. Assuming such situation overman informed to manager & SO at first. 2. After getting information, Manager instructed to him to bring every persons & Machineries at safe place. 3. Man & machineries brought at safe place quickly.	Satisfactory & safe result shall be found in case of inrush of water	Mock drill will be conducted in every month & after the any unwanted incident & accident.
67	Incident due to exposure to high atmospheric temperature. An announcement through wireless set/walkie-talkie & continuous buzzing of whistle at about 12:30 PM that an incident occurred at HEMM workshop about the fainting of a mechanical helper during working at workshop in hot atmosphere.	Shift ACM Mr. Kumar Ankit & Shift O/M Mr.Balaram Adhikary reached the place immediately. Security incharge, first Aider, Safety Officer, WI, Garage Incharge, Mechanical Incharg & MDO Persons also reached the spot. Response time- Shift ACM & O/M- 5 minutes, Manager & SO- 7Minute, Security Incharge-6 minute, First Aider- 6 minute, VT Officer-7 minute, WI-6 minute, Garage incharge-2 minute, Mechanical Incharge-10 minute & MDO Persons- 2 minute, Manager thanks to all and assured that nothing happened, it was just a mock rehearsal.	Ambulance arrived 20 minute late.	1. working shed needed at workshop. 2. Water filter arrangement for drinking water. Friquent mock drill rehearsal to alert the working persons in the mine through pit safety committee meeting & regular safety talk by shift persons.
68	Fire in electric sub station premises.	Fire in electric sub station premises.	1.Presence of dry grass and bush inside sub-station premises. 2.Fire extinguisher provided at sub station was not sufficient.	1.Substation premises should be free from grass and bush. 2.Sufficient number of fire extinguisher should be made available at sub-station.
69	Inrush of water in mine during heavy rain.	Inrush of water in mine during heavy rain.	1.Haul road became slippery due to heavy rain which causes difficulty in evacuation of men by vehicles.	1.Condition of haul road should be improved for proper drainage of water.
70	Inrush of Water	SATISFACTORY. EMERGENCY RESPONSE TIME From 11.10am to 11.40am	GOOD	NEED TO IMPROVEMENT IN SYSTEM OF COMMUNICATION

71	Manager informs Assistant Manager (Shift) that a fire has been observed in Madanpur Overburden dump.	Shift Assistant Manager on receiving the report immediately 1. Rushed to Madanpur dump from his current location inside the mine. 2. informed Control Desk-1 3. Asked shift overman of the district to reach the spot. 4. simultaneously called the Fire tender through wireless to reach the spot. 5. Asked Shift Security Supervisor to reach the spot, as described by him. Mine Manager further intimated of the incident :Safety Officer, Colliery Engineer,Project Manager of outsourced agency.Project Manager of outsourced agency arranged for another water tanker to reach the filling point, fill water and reach the spot.Colliery Engineer immediately informed the Electrical Supervisor to check any cable passing through the spot. He also asked the store to arrange and send 25 Kg Fire extinguisherSafety Officer rushed to the spot by arranging a vehicle.Electrical supervisor alerted his team to be ready for electrical disconnection, if required; to check for nearby cables towards Coal-yard.It was observed that Fire Tender reached the spot.Security Supervisor informed Security in-charge regarding the incident and rushed to the spot.Security in-charge mobilized the security personel in the mine to meet at a point and wait for further instructions. He also mobilized security at barrack to be ready for movement when instructed.Shift overman reached the spot.	Response of Store was slow as he started searching for 25 Kg Fire Extinguisher- 15 minutes Arranging of vehicle for arrangement to send the Fire Extinguisher to the spot took 20 minutes a) Response Time: Expected: 20 minutes; b) Actual: 30 minutes; c) Delay: 10 minutes	1. Bush cutting should be done immediately. 2. Cable layout to be demarcated by markers
72	STRATA FAILURE	SATISFACTORY (30 MIN)	GOOD RESPONSE.	NEED TO IMPROVE COMMUNICATION SYSTEM AND PROPER AND VIGILANT DRESSING IN FACE BY MINING SIRDAR
73	Detection of fire	Early detection of spontaneous heating, daily effective supervision. Surrounding area was cleared of dry vegetation, inflammable materials. Arrangement of fire extinguisher was done.	Mock drill was successful	
74	Fire	Telephonic communication not properly communicated due to CDS problem	The CDS need to be repaired or replaced by new one.	To mitigate the found shortcoming
75	Inundation	Telephonic communication not properly communicated due to CDS problem	The CDS need to be repaired or replaced by new one.	To mitigate the found shortcoming
76	U/g Mine Fire at Mill. Incline unit	Withdrawal time excess	More rapid communication through CDS to all key persons required for withdrawal of persons.	To mitigate the found shortcoming
77	Spontaneous heating at 3/4 Pit	Late communication due to section telephone point far away from running district.	Telephone points to be closer for better & quick communication to all persons of the districts.	To mitigate the found shortcoming
78	Fire	Telephone of 33 L/26R was not working properly and it was not reported hence a messenger had to send for withdrawal of pump khalasi.	Previous shift pump operator must be report about the condition of telephone	To mitigate the found shortcoming
79	Inundation	Some persons got panic and ran to rise side.	Person should obey the instruction of Mining Sirdar to use escape route.	To take the necessary steps to mitigate the found shortcoming
80	Inundation	Ambulance not arrived timely.	After receiving information Ambulance must be ready near the pit.	To take the necessary steps to mitigate the found shortcoming
81	Inrush of Water	Satisfactory but Some delay observed to communicate the instructions to them those are engaged to work in pump site.	Demarking of escape route at more frequent intervals.	NEED TO ENHANCEMENT THE SYSTEM OF EARLY COMMUNICATION
82	Firedamp explosion	Response time high for percolating the information to area level authorities and rescue rooms	Response time of Attendance clerk was high	Awareness program to be taken for early response.
83	Underground fire	Good, response time was good for evacuating through the escape route	No one found in the return airways	Such a wonderful status to be made continue.
84	Inrush Of water in underground	Satisfactory but Some delay observed to communicate the instructions to them those are engaged in Borehole Activities in panel 16EL	Phone provided far from the site.	Phone should be provided nearer to the site.
85	Spontaneous heating	In-sufficient stock of fire fighting hoes and bratis at colliery store	Sufficient stock quantity of bratis and fire fighting hose should be checked weekly.	To take the necessary steps to mitigate the found shortcoming
86	Inundation	Telephone system was not functioning properly.	All telephone point should be checked daily.	To take the necessary steps to mitigate the found shortcoming
87	Inundation	Number of persons who were in underground was less than the attendance being shown in the attendance register. As roof bolter had come out from UG at about 12 noon but attendance was out.	In and Out attendance is not being strictly monitored.	FORM-C cap lamp room registrar out attendance should be marked as soon as person comes out of mine and report to cap lamp room.
88	Inundation	Store keeper did not come in time, as he did not get the information	The store keeper did not get the information because his new number was not updated	To take the necessary steps to mitigate the found shortcoming
89	Spontaneous heating	fire extinguishers, fire fighting hoses and bratice are inadequate	Adequate nos.of fire extinguishers, fire fighting hoses and bratice are to be placed at strategic place.	To take the necessary steps to mitigate the found shortcoming
90	Inundation	Communication gap observed	All contractor workers,departmental workers and supervisors are required to be more aware	To take the necessary steps to mitigate the found shortcoming



91	Danger of Inundation	All 126 workmen have been withdrawn from the mine. Response time – 40 Minutes.	Outcome:- Mock Drill was successful. Shortcomings:- Two employees aged above 58 years were unable to walk fast and hence reached surface within one hour.	NIL
92	Noxious Gas	Most of the workpersons assembled at the Miner station and on instructions of the Overman they were sent to surface via travelling road and all the rehearsal was completed within 22 minutes. Response time was about 08 minutes	Few person went through return route instead of travelling roadways	On the spot safety talk should be given to concerned u.g personnel
93	Smoke	Overman whistled and instructed all face workers to stop the work and assemble at miners station and explained the situation to them and then take them to Surface via travelling road. Response time was 10 minutes.	Pump operator and contractual worker who were working in return route didn't get report on time and they were in panic state at last moment	Sufficient training/demonstration SCSR kit should be made available at Colliery and proper training should be imparted to all U.G workers including contractual personnel to use the same in case of emergency.
94	Regarding Danger of inundation	Overman and mining sirdar started whistling and after hearing the sound of whistle most of the workers started running towards the Miners station. SDL gang could n't hear the whistle due to machine and ava system. Then mining sirdar was sent to call the remaining workers at the Miners station. Response time was about 10 minutes.	All face workers were taken to surface via escape route. But some workers engaged in roof bolting at haulage roadway didn't get the information on time and were informed 15 minutes later.	The SOP/COP framed for the event of inundation must be displayed at conspicuous location of the mine. People must be made convergent with the do's and don't's during event of inundation. Escape route should be marked and highlighted in the mine.
95	Regarding Danger of Inundation	Most of the person tried to escape via the emergency route provided. The pump operators immediately acted upon the whistling sound. The fitters engaged in maintenance reacted upon shouting about 5-7 minutes late.	The pump maintenance gang reacted late and started running towards travelling route instead of escape route.	All persons deployed near the pumping site were gathered and given safety talk about do's and don't's during the event of inundation.
96	Regarding Danger of Inundation	The persons deployed near 36 no. sump of R VI seam reacted instantly but those deployed near 50No. Sump of R VI seam reacted after about 5 minutes of whistling.	The pump foreman didn't inform the telephone operator. Some of the operator didn't take the escape route rather they tried to escape via travelling route.	All employees deployed near the sump were gathered and they were appraised about the mock. WI(MIN) and Safety Officer gave them safety talk about the safe practices during operating the pump and the procedure to escape in case of an emergency and also to communicate about the same.
97	Regarding Danger of inundation	Overman and mining sirdar started whistling after hearing the sound of whistle. Most of the workers started running outside the district after hearing the shouting of overman. Pump operator couldn't hear the whistle immediately due to noise of pump, he reacted after about 7-8 minutes of whistling and shouting.	Overman took the engaged persons to a higher RL location and confirmed the same to the monitoring room. Some people started shouting and running here and there.	The SOP/COP framed for the event of inundation must be displayed at conspicuous location of the mine. People must be made convergent with the do's and don't's during event of inundation. Escape route should be marked and highlighted in the mine.
98	Regarding Danger of Inundation	1. total injuries: Nil 2. Total no of persons withdrawn = 212 . 3. overman & mining sirdar started whistling & shouting receiving the information of withdrawal from CDS. Most of the workers moved outside from the district hearing the whistle . The response time of workers was 4 minutes . pump operator posted in 46 L , main dip of pit 7 was communicated via CDS . 4. all persons were withdrawn by 4:55 p.m. 5. Reporting time of official / Ambulance :- a. Agent : 4 :45, b. Manager : 4:43 , c. Ambulance : 4:40 , d. Rescue trained persons :- 4:42, e. Doctor : 4:48	1. some people started shouting and running here and there 2. Travelling road was not clean at some places , so the withdrawal took more time.	Cleaning of travelling road needs to be done at regular intervals.
99	Inundation	Satisfactory, 30 Minute	Response time was quick and in 25 minutes all workers reached to Pit top office.	Need to improvement of communication system
100	Dump Failure	Satisfactory, 30 Minute	Response time was quick and in 25 minutes all workers reached to Pit top office.	Need to improvement of communication system