

**OUTCOME FROM THE LEARNING OF MOCKDRILL**

S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
1	Fire in Excavator.	<ol style="list-style-type: none"> <li>Shift Overman observed smoke from rear side of the radiator of Excavator and informed to Operator to shut down the machine and ride off the machine.</li> <li>Shift Overman informed to Shift I/C, : 01 min</li> <li>Control Room establishment time: 01 min</li> <li>Declared emergency by Colliery Manager at 11.43 am 5. Fire Tender reached at site 11.50- within 7min</li> <li>Fire quenched at 11.54 - 4 min.</li> <li>Information to every point was given quickly through Walkie Talkie.</li> <li>Attendance cross check by MTK : 02 min</li> <li><b>9. Total Mock Rehearsal/Response Time: 14 min.</b></li> </ol>	<ol style="list-style-type: none"> <li>Wiring was not covered with the proper insulation.</li> <li>Oil leakages was notice.</li> <li>Mahine Operator was feel panic.</li> <li>Siren was not operated due to power failure from MSEB.</li> </ol>	<ol style="list-style-type: none"> <li>Regular washing of equipment is required during summer season.</li> <li>Proper toping of coolant.</li> <li>All the wiring, leakages and fittings should be checked regularly and maintained properly.</li> <li>Back up power supply is essential to Emergency Siren.</li> <li>Training of operator is necessary in respect to deal with fire in emergency.</li> </ol>
2	Fire in Tipper	<p><b>Start time: 10:30 AM &amp; Completion time: 10:55 AM Total Response /Mock Drill Time: 25 min.</b></p> <ol style="list-style-type: none"> <li>Time between observation of tippe fire &amp; information to shift incharge: 02 min.</li> <li>Information to Colliery manager &amp; Safety Officer : 01 min.</li> <li>Ringing Siren: 02 min.</li> <li>Control Room establishment time: 01 min.</li> <li>Time taken for safe withdrawal of all persons from workplace to control room : 15 min.</li> <li>Attendance cross check by MTK : 03 min.</li> <li>Information to every point was given quickly through Walkie Talkie.Parallel activity Timing.</li> <li>First Aider's , RTP &amp; Doctor's reach at control room quickly i.e within 15 min.</li> <li>Information to ASO &amp; Agent : 01 min &amp; Formation of teams for observation of Fire in tipper: 01 min.</li> </ol>	<p>Audit team audited the mock rehearsal procedure &amp; recorded the following observations:</p> <ol style="list-style-type: none"> <li>Awareness regarding emergency response plan is very good.</li> <li>Supervisors &amp; key persons were acted promptly.</li> <li>MTK kept record of persons present in mine at the time of emergency.</li> <li>Timely establishment of control room is observed.</li> <li>Ambulance was reached timely.</li> </ol>	<ol style="list-style-type: none"> <li>Regular Inspection of Tippers should be done.</li> <li>Schedule maintenance of HEMM should be done.</li> </ol>
3	Fire in Dozer in Coal Stock Yard.	<ol style="list-style-type: none"> <li>At about 10.30 pm, the Dozer operator operating Dozer at coal stock. Supervisor shaw the fire at rear side of dozer is immidiately inform to dozer operator to stop and left the dozer.</li> <li>Dispatch Incharge control the fire with the help of fire extinguisher kept in dozer by involving fire fighting mazdoor.</li> <li>The response time for complete process for extinguisher fire is evacuation of men and machinery is 24 minutes.</li> </ol>	<ol style="list-style-type: none"> <li>Fire extinguisher kept in Dozer, in working condition so the fire extinguished easily.</li> <li>The mining sirdar Shri Sarang Thawkar was very alert to notice the fire in Dozer.</li> </ol>	<ol style="list-style-type: none"> <li>Supervisors should be equipped with Walkie-Talkie so that they immidiately inform the Higher official in case of emergency.</li> </ol>
4	Fire in HEMM workshop	<ol style="list-style-type: none"> <li>All work of withdrawal of men and machinerywas carried out as per standing order.</li> <li>Response time of fully control the fire was 18 min.</li> <li>Water tanker came a site with in 6 min. after a call.</li> </ol>	<ol style="list-style-type: none"> <li>Response time can improve.</li> <li>Worker Ramanuj who had seen fire but didn't know how to operate fire extinguisher but he immidiately informed to his supervisor.</li> </ol>	<ol style="list-style-type: none"> <li>Troiley mounted fire extinguisher should be placed in HEMM workshop.</li> <li>List of important persons contract person contract in emargency should be displyed in worshop also.</li> <li>Demostration of fire extinguisher at HEMM workshop repaired.</li> </ol>

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5	Inundation-water level of XX river touching the R.L. 280 m.	<ol style="list-style-type: none"> <li>At About 12PM Overman observed that water level of K- river has crossed the warning level. He immediately swing into action and inform and alert the PC Operator to come out of the machine also he informed colliery manager, shift incharge and safety officer on mobile phone.</li> <li>Colliery Manager on receiving the message immediately called upon and guided safety officer, all supervisor and the members of Emergency organization and Authorized Signatory of HOE contractor.</li> <li>The hooter was rang 10 times to indicate the impending emergency.</li> <li>Safety officer ensured complete withdrawal of men and machinery.</li> <li>The response time for complete evacuation of men and machinery is 25 minutes which is satisfactory.</li> </ol>	<ol style="list-style-type: none"> <li>Pump Khalasi response was found very slow after listing 10 hooters.</li> <li>He was late to come out from pump station as compare to other workers.</li> </ol>	<ol style="list-style-type: none"> <li>Regular safety talk regarding inudation should be given to all employee in monsoon season.</li> </ol>
6	Inundation	<ol style="list-style-type: none"> <li>Workers got panicked due to information of heavy inrush of water.</li> <li>Telephonic message was not communicated to other supervisors present in working section within 15 min after trigger.</li> <li>The response time is 25 minutes.</li> <li>Emergency response plan immedeatly triggered by Mine Manager.</li> </ol>	<ol style="list-style-type: none"> <li>Pump operator and pump maintenance gang got pannicked due information of heavy inrush of water from Seam V-C.</li> <li>Cleanning of Underground drains trevelling roadway required.</li> <li>Matreial supply gang was not aware about emergency situation and escap route.</li> </ol>	<ol style="list-style-type: none"> <li>All the concerned person should be advised to improve their response time.</li> <li>Proper communication system(UG telephones) required in Haulage Route..</li> </ol>
7	Inundation	<ol style="list-style-type: none"> <li>Responsible person communicated by CDS Operator.</li> <li>Emergency action plan put in to operation immediately by colliery manager.</li> <li>Average Response time found 2 min.</li> </ol>	<ol style="list-style-type: none"> <li>Workers got panicked in situation.</li> <li>Delay in reporting due to non availability of near by telephone.</li> <li>Awareness was not up to the mark and some persons were not fully aware of their responsibilities.</li> </ol>	<ol style="list-style-type: none"> <li>All the concerned person should be advised to improve their response time.</li> <li>sufficient telephones near pumping station should be provided.</li> <li>Regular awareness by classes and public address svstem should be conducted.</li> </ol>
8	Roof fall in Seam	<ol style="list-style-type: none"> <li>Responsible persons communicated by MTK.</li> <li>Emergency action plan triggered immediately by colliery manager.</li> <li>Average response time : 35 minutes.</li> </ol>	<ol style="list-style-type: none"> <li>Roof was not supported properly.</li> <li>Workers got panicked due to sudden roof fall.</li> </ol>	<ol style="list-style-type: none"> <li>Proper &amp; timely inspection by mining supervisors required.</li> <li>Training programmes regarding various hazards should be conducted.</li> </ol>
9	Inundation	<ol style="list-style-type: none"> <li>Reported heavy insush of waterat 16LE/43D of IV(B) at 1.15 PM in First shift. Responded by all and gathered at safe place by 1.40 PM.</li> <li>All members of emergency organisation were involved in mock drill.</li> <li>Response Time : 23 Min.</li> </ol>	<ol style="list-style-type: none"> <li>Shri XYZ was very alert and inform CDS operator immediately.</li> <li>Delay in communication with the persons who were inspecting old working areas.</li> </ol>	<ol style="list-style-type: none"> <li>Improvement is required communication system so that the persons who are in old working areas can be informed.</li> </ol>
10	Inundation	<ol style="list-style-type: none"> <li>The Emergency organisation plan increase of sudden inrush of water into the mine was completely implemented.</li> <li>The response time for withdrawal of men and machineries from the mine to safe place was 30 minutes was satisfactory.</li> </ol>	<ol style="list-style-type: none"> <li>Few persons got panicked on getting first information.</li> <li>Ordination in between Supervisors of Inder and Kamptee Patch was not satisfactory.</li> </ol>	<ol style="list-style-type: none"> <li>Trigger vales to be observed more closely.</li> </ol>
11	Bench Slide	<ol style="list-style-type: none"> <li>All key persons were communicated in time.</li> <li>All the officials reached the spot in time.</li> <li>Emergency response plan put into action immediately.</li> <li>All persons and machinery withdrawn to safe place.</li> <li>Response Time : 21 Min.</li> </ol>	<ol style="list-style-type: none"> <li>Persons should be properly trained &amp; retrained to deal emergency situation.</li> <li>Lack of communication due to mobile coverage problem and shortage of Walkie Talkie sets.</li> </ol>	<ol style="list-style-type: none"> <li>Adequate number of walkie-Talkie sets to be provided.</li> <li>Training &amp; retraining to all persons about emergency situation to be provided.</li> </ol>

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12	Fire in Tipper.	1.Mock rehearsal was conducted successfully without any harm to persons. 2. Tanker reached after 15 mins. 3. Response Time : 28 Min	1.Persons should be properly trained & retrained to deal emergency situation. 2.Lack of communication due to mobile coverage problem and shortage of Walkie Talkie sets.	1. Cluster of Fire extinguisher to be kept ready at prominent place. 2. Training & re-training to use fire extinguisher to all theTipper Driver & Operators to be provided. 3. Adequate number of walkie-Talkie sets to be provided
13	Bench Slide	1.All key persons were communicated in time. 2. All the officials reached the spot in time. 3.Emergency response plan put into action immediately. 4.All persons and machinery withdrawn to safe place.5. Response Time : 33 Min.	1.Persons should be properly trained & retrained to deal emergency situation. 2.Lack of communication due to mobile coverage problem and shortage of Walkie Talkie sets.	1. Adequate number of walkie-Talkie sets to be provided. 2.Training & retraining to all persons about emergency situation to be provided.
14	Bench Slide	1) The Mock rehearsal was completed within 10 minuts without any panic. 2) Withdrawal of equipment and workpersons was carried out properly without any damage of equipment/any injury/any loss.	1) Mobile network is not proper due to which communication is difficult. 2)The Ambulance came in time but no medical representative was present with ambulance. 3) A good team work was observed through out the execution of mock drill.	1)Workers needs to be more conversant with Emergency Response Plan. 2)emergency contact numbers & First aider list to be displayed at more places. 3) Mobile network should be improved.
15	Fire in Tipper	1.Mock rehearsal was conducted successfully without any harm to persons. 2. Tanker reached after 15 mins. 3. Response Time : 11 Min.	1.Persons should be properly trained & retrained to deal emergency situation. 2.Lack of communication due to mobile coverage problem and shortage of Walkie Talkie sets.	1. Cluster of Fire extinguisher to be kept ready at prominent place. 2. Training & re-training to use fire extinguisher to all theTipper Driver & Operators to be provided. 3. Adequate number of walkie-Talkie sets to be provided.
16	Fire in Dozer.	1.All persons were communicated in time (5 min). 2.All mine officials reached at the spot in time (8 min) 3.Ambulance reached the spot in time (12min). 4.Fire fighting tanker reached on the spot (10 min) 5.Fire fighting hose started leakage of water. 6.More persons need training in fire fighting job. 7.Total Response Time : 12 Min	1.Additional fire extinguishers not available near coal stock no.8 2.Regular washing not done. 3. more persons are not trained in fire fighting. 4.More points are need in pipe line.	1.More than one portable fire extinguisher of atleast 10 kg capacity is required. 2.Regular washing of machine should be done. 3.More persons should be trained to operate fire extinguishers. 4.Water pipe line is provided in each coal stock, but more points are need for fire fighting at coal stock no.8.
17	Dump slide at external OB dumping No.X	1.All persons were communicated in time (7 min). 2.All mine officials reached at the spot in time (10 min) 3.Ambulance reached the spot 10 miinutes late (25min). 4.The density of persons minimized. 5. Response Time : 25 Min	1.Ambulance reached 10 minutes late 2 Additional place is required for light vehicles. 3.Poor knowledge about escape route.	1.Persons should be effectively educated, trained and aware for emergency response. 2.Need some additional place for light vehicles. 3.Knowledge should be given to all work persons about escape route.

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18	Bench Failure at RL 100.	Response Time – 10 Min.1)Immediately Response by Emergency Response Team and Trigger action plan. 2) No injury to any persons. 3) Mock rehearsal conducted successfully	1) Mobile network is not proper due to which communication is difficult. 2)The Ambulance came in time but no medical representative was present with ambulance. 3) A good team work was observed through out the execution of mock drill.	1) Need to improvement of Communication. 2) There is a need of exercise so as to increase awareness amongst all concerns and rescue team members suggested for more practice for smooth and speedy rescue operations. 3) emergency contact numbers & First aider list to be displayed at more places.
19	Fire in HEMM Excavator.	Response Time – 08 Min.1) Portable fire extinguisher used & water spraying by water tanker. 2) No injury to any persons. 3) Mock rehearsal conducted successfully	1) AFDSS system is not working. 2) Fire tender is not available. 3) Shortage of Walkie-Talkie.	1) AFDSS is required in all excavator. 2) Fire tender required for emergency. 3) Sufficient no. of additional fire extinguisher required.
20	Fire in Drill.	Response Time - 30 Min.1) All workers & Machines were shifted to safe place.2) Mock rehearsal conducted successfully without any obstacle 3) No workmen was harmed during mock rehearsal.	1) Mobile network is not proper due to which communication is difficult. 2) Shortage of Walkie-Talkie. 3) Doctor was not informed so doctor and ambulance did not arrive. 4).RC Clerk did not horn 10 times.	1) Mobile network should be improved. 2) Adequate no of Walkie talkie sets should be provided. 3) Doctor must be informed. 4) Counselling of importance of emergency siren is to be given to RC clerks.
21	Dozer Toppling in Hard Dump	1) Delay in arrival of ambulance by 4-5 minutes. 2) Withdrawal of persons to the safe place was done. Response Time :42 minutes	As Dozer operator got dizziness due to which he took the dozer near the edge of big rain cut drain at dump causing to toppling of dozer one side.	Persons having high BP /feeling stress should inform to shift incharge and not to operate on that condition.
22	Bench Slide	Bench slide started about 10 am between 2000 mtr. chainage to 2200 mtr. which was observed by overman.Response Time : 30 Min	Shift official left the block of LMV road leading to approach of affected zone	Take proper attention during blocking of road.
23	Dump Slide	1) The Mock rehearsal was conducted without panic. 2) Withdrawal of persons to the safe place was done.Response Time :70 minutes	1. Communication between dumping Overman and shift overman was delayed due to poor mobile network as the shift incharge was inspecting the exposure face. 2. Delay in passing on the instructions for marching of the loading m/c from respective faces to the dumping was delayed by poor mobile network.	The whole operation could have been timely if the more nos. of walkie-talkie were provided to all concerns.
24	Fire tn Dozer.	Overman, deputed at HOE Coal face conveyed the information about fire In the Dozer to the shift incharge by Walkie Talkie at about 04:30 PM and the same message was conveyed unmediately to all concerned persons by shift incharge and Emergency Response and Evacuation Plan kept in action. Information gven to Shift VC by HOE Coal Face supervisor 2 min. Shift VC conveyed the message to safety officer - 3 min, Mine manager and safety officer conveyed the message co higher authorities. RIK clerk.Department and E & M department - 5 min, simulataneously fire fighting crew was called by shift fire was deal with Dozer operator and supervisor with the help ofreadily available fire extungutshers - 22 min, time taken to reach the officials at the location - 15 mm. whole operation have taken 47 mins.	Shortage of walke talkies Most of the tune there is a mobile network issue A fire tender should be procured for emergency.	Shortage Of walkie talkie should be resolved Due to network problem. there was delay In communication which could be reduced . A fire tender should be available in each mine

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25	Fire	Total time taken for evacuation/Response Time is 50 minutes.	<ol style="list-style-type: none"> <li>1. Telephonic communication system is not working properly.</li> <li>2. Supervisor lately informed who was working in return airway.</li> <li>3. Excessive gathering of trespassers near man riding system.</li> </ol>	<ol style="list-style-type: none"> <li>1. Improve the telephonic communication system.</li> <li>2. Supervisors should always be informed to each other about their place of work, before starting the work.</li> <li>3. All supervisors &amp; workers should be well aware of escape route.</li> <li>4. Next working day on 13.03.2024 a meeting was conducted by manager, S.O, W.I gathered every worker and instruction given to everyone to be cautious at work and follow the instructions of the respective supervisors, and escape peacefully as soon as possible in case of emergency.</li> </ol>
26	Underground fire	Mock drill started 3.10 p.m. and completed at 4.00 pm. Response Time : 50 Min	<ol style="list-style-type: none"> <li>1. Some persons got panic hearing regular/confirmation whistle blowing.</li> <li>2. MIS, OM Control the situation properly and gathered all persons in Miner Station.</li> </ol> <p>SUGGESTIONS.</p> <ol style="list-style-type: none"> <li>3. Evacuation was done in orderly manner.</li> <li>4. Mock rehearsal completed satisfactory.</li> </ol>	To identify escape route whole entire haulage route from 17 L23 junction to surface mark with red color.
27	Spontaneous Heating/Fire	<ol style="list-style-type: none"> <li>1. Less no. of workers got panic when heard about fire.</li> <li>2. Persons were found aware of emergency escape route.</li> <li>3. Maximum person followed the instructions of Mining Sirdar and Overman but few people found way to escape route TR , timely they were counselled by Mining Sirdar and Overman.</li> <li>4. SAM and higher officials who were informed shown their concern very seriously about what happened and arrived at the mine immediately.</li> <li>5. RRRT I/c reached at mine after 15 Min.6. Response Time : 41 Min.</li> </ol>	<ol style="list-style-type: none"> <li>1. Arrival time of Rescue time should be lessened.</li> <li>2. All person must be acquainted with Escape Route.</li> </ol>	<ol style="list-style-type: none"> <li>1. Emergency escape route to be used regularly.</li> <li>2. All activity should be completed within half an hour.</li> <li>3. Panic should be avoided in emergency situation.</li> <li>4. Proper communication system to be ensured.</li> </ol>
28	Fire in Drill Machine	<ol style="list-style-type: none"> <li>1. Mock Drill was conducted smoothly.</li> <li>2. Fire extinguishers availability and proper use make the job easy.</li> <li>3. Timely response of officers and employees.</li> <li>4. Better co-ordination and timely response against fire.</li> <li>5. Response Time : 21 Min.</li> </ol>	There should be proper maintenance of Drill's hydraulics and wiring at regular interval and training to Drill operators & site Supervisors to deal with fire promptly.	<ol style="list-style-type: none"> <li>1. All activity take 20 minutes to give message everyone.</li> <li>2. Take essential and immediate action without panic in such situation.</li> <li>3. Emergency organization should be ready for handling such situation.</li> <li>4. Water Hydrants from pump delivery can be taken.</li> </ol>
29	Bench sliding	<p>Sri. X has informed at about 10.30 am to shift incharge and HOE incharge that highwall side of exposure patch slide near rise side of above coal face by walkie-talkie. Mock drill conducted in first shift and emergency plan works satisfactory. Sufficient vehicle available for evacuation of manpower.</p> <ol style="list-style-type: none"> <li>1. shift incharge immediately inform to Colliery Manager at about 10.31 am by mobile phone.</li> <li>2. HOE incharge informed to safety officer at about 10.31 am by mobile and production incharge by walkie-talkie by 10.33 am.</li> <li>3. 1. shift incharge informed to attendance clerk about 10.34 am.</li> <li>4. Attendance clerk informed to telephone operator about 10.35 am and Ambulance driver at 10.36 am.</li> <li>5. Whistle blown 10 times in front of time office at 10.37 am by Mgr office.</li> <li>6. safety officer informed to Sub Area Manager at about 10.36 am.</li> <li>7. telephone operator informed to personnel manager at about 10.37 am and survey section at 10.38 am and also rescue trained person shri x &amp; Shri J at about 10.41 and 10.42 respectively. Work of manpower removal from exposure patch of coal face also nearby pump area to pre decided safe place under supervision of shri J (shift incharge) - Total time-12 minutes. Time taken to reach the officials at the location - 13 minutes. The whole operation have taken 25 minutes.</li> </ol>	<ol style="list-style-type: none"> <li>1. The emergency organisation plan worked well for removing person from mine as information passed fast by walkie-talkie. The process mock rehearsal conducted smoothly. All the people got message and took part.</li> <li>2. No panic in the process of rehearsal as all people took their part and make the rehearsal successful.</li> </ol>	<ol style="list-style-type: none"> <li>1. Do not panic in such situation and take essential and immediate action.</li> <li>2. Keep ready emergency for handling such situation.</li> </ol>

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30	Fall of person from the BEML water tanker while doing regular maintenance work.	1. Some oil are scattered on machine surface of BEML water tanker bonnet, where maintenance work is doing. 2. He is not in alert mode during working. Response Time: 15-20 Min	i.SOPs were not followed while working. ii.Assistant foreman also pay attention on worker while doing the work.	1. SOPs shall be followed in proper manner while working. 2. Machine should kept be clean from grease and oil.
31	Fire in HEMM	1. On 21.03.2024 at 11 am , shift overman informed the RC regarding the fire in BE-235 at coal face at turbo charger. 2. RC informed that the matter to all concerned HODs well in time. 3.All officials and key persons reached the coal face within 10 min. 4. Water tanker reached the spot in time and fire tender also reached from Sasti OCM within 15 Min on the spot. 5.Present rescue persons reached the site within 10 min time. Total Response Time : 15 Min.	Communiacion problem due to poor mobile network. Water tanker, Fire Tender of the mine arrived timely. Shortage of fire fighting persons in the mine.	1. Increase the nos. of walkie-talkie in the mine. 2. Fire fighting training should be imparted at the GVTC , Ballarpur.
32	Fire in Excavator at OB Departmental face.	The message is given by Mr. Nitin Jha Overman from the phone about the occurrence of fire. Res. Time: 10 min.	Fire tender delayed to reach at place when fire exists. Shortage of walkie talkie.	Strengthening communication system by providing adequate number of walkie-talkie
33	Fire in Dumper at coal face.	The message is given by Mr.Overman) from the phone about the occurrence of fire. Res. Time: 25 min.	Fire tender delayed to reach at place when fire exists. Shortage of walkie talkie.	AFDSS at all HEMM shall be in working order. Regular cleaning and washing of excavators shall be done.
34	Internal Dump Slide	Alarm of SSR started ringing as alert of movement in the Internal dump in HOE coal face. Res. Time: 20 min.	Careful and regular observation of the dump is required. Poor network service in the HOE coalface area, acting as a communication barrier.	More wireless communication devices are needed for effective communication. Automatic siren systems shall be installed in coal face also.

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35	Fire-fighting in Dozer at Coal Stock	While operating Dozer13699 at Coal Stock, operator observed the smoke near turbo charger. At that time, AFDSS did not function properly. So, he immediately picked the extinguisher to negotiate the fire. But he could not sufficiently extinguish the fire. He immediately informed the supervisor about the same. After the message given by the shift incharge, the quick response team reached there with water tanker. Within 10 minutes, fire fighting team reached at site. The fire was extinguished successfully with the help of water tanker by the trained persons. Response Time: 20 min.	AFDSS of the machine was not working at the time of fire.	AFDSS of every HEMM should be regularly checked and maintained. All the HEMM operators should have necessary training on use of fire extinguishers.
36	OB Dump Failure	Shri. S Mining sirdar observed cracks in Hard OB Dump (7TH Lift). He informed Mine Manager, Safety Officer and Strata Control Officer. All Officers including Mine Manager, Safety Officer, Strata Control Officer, Shift Incharge assembled at the site. Response Time : 30 Minutes Mining sirdar immediately fenced the area after stopping dumping there. As it is mock rehearsal all the points of TARP mentioned in the SMP discussed at the spot and Safety Officer explained the monitoring procedure.	Due to telephonic signal problems, message communicated on delayed. Awareness of maintaining dump stability is required. Monitoring of dump stability procedure should be known to all working in dumping area.	Departmental Walkie Talkie should be provided to all Executives and Supervisors TARP should be discussed regularly by Strata Control Monitoring Officer.
37	Fire in Excavator Hitachi in Coal Bench.	Shri. V Overman of Relay 'B' & Shri. M Shift incharge declared fire in the Excavator no. x Make Tata Hitachi. Shift Incharge immediately informed Mine Manager , Safety Officer & Coal Face Incharge . Operator of Excavator tried to operate AFDSS in the excavator but not worked. Safety officer informed fire tender Rescue Room Incharge, Ambulance & ASO, BA. Immediately. Within 10-12, minutes Rescue Room Incharge arrived at the spot with brigade members and fire extinguisher started operation immediately. Response Time : 14 Min	Regular checking of AFDSS should be done. All persons should be trained for fire extinguisher operation and fire fighting procedure.	Regular training of fire fighting is required for all operators, workers, supervisors and executives.
38	Fire In Sub Station.	Observations:At around 08.30AM of 1"shift Foremen electrical during his Inspection of Sub-Station found smoke and fire in workshop.inform to the safety officer, mine manager and colliery Engineer (E&M). ResponseTime:19 Min.	1. Communication problem. 2.Only BSNLsim provided which has poor network at the mine.Other company sim like Jio should be provided.	1.Required improvement in alertness and response system. 2. Automatic Siren system shall be installed in Workshop
39	Mine Fire	1. Mock drill was successfully taken place with in time. 2. Some members not reached timely due to network issue. 3. Ambulance was reached at spot within targeted time period. 4. Response Time : 18 Min	1. Network issues were observed. 2. No proper arrangement of water spraying. 3. It is observed that the range of the alarm/siren was not adequate. 4. Inadequacy of sand buckets. 5. Water tanker was not available at site. 6. No proper arrangement of firefighting was provided in water tanker.	1. Emergency organization should be implemented in a time bound and smooth manner. 2. The proper water arrangement must be provided. 3. Alarm/siron of proper range must be provided. 4. The numbers of fire buckets must be increased by the management. 5. Tanker must be availble all the time at site. 6. Firefighting arrangement must be provided in all water tankers.

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40	Mine Fire Location – Major seam Return Airways	Emergency declared in mine .Response time : 36 Min	1. Rescue trained Person responded in time. 2. Most of responsible person responded in time. 3. Some member not reached timely due to network issue.	1. Regular cleaning and removal of fallen coal in return airways. All persons should have knowledge about use of Self Contained Self Rescuer (SCSR). 2. Frequent inspection of sectionalized stoppings and unused old working area which have not been sealed off. 3. Periodic Inspection of emergency escape route way and to ensure obstruction free and proper well maintained ventilation in escape routeway. 4. Risk review workshop on Mine Fire and electrical fire in underground to be conducted. 5. Detection of CH4 and CO2 in return airways. 6. Measurement of WBT and DBT temperature of coal heap in return airways.
41	Fire at HEMM Workshop	1. All the key persons were communicated well in time. 2. All the official reached timly on the spot. 3. Fire tender and two water tankers was under breakdown condition. 4. Fire fighting work done timely. 5. Ambulance reached timely. 6. Only one water tanker were available for the purpose. 7.Response Time : 12 Min	1. Fire Tender & two Water tankers was under breakdown condition and only one water tanker was available. 2. Shortage of Fire Fighting buckets observed at workshop. 3. More sparable fire extinguishers shall be kept available at workshop.	1. Fire tender & water tankers should be kept readily available 24X7. 2. Adequate fire fighting buckets shall be provided at conspicuous places. 3. Adequate quantity or More sparable fire extinguishers should be provided at all workshops to deal with emergency. 4. walkie-talkie set should be increased for better communication. 5. 24X7 water tapping arrangement should be available in all workshops. 6. Fire station should be provided near Excavator Workshop
42	Dump Failure	1. All the key persons were communicated well in time. 2. All the official reached timely on the control room. 3. Response Time : 30 Min	1. Shortage of statutory mining supervisors. 2.Shortage of Light Motor Vehicle.	Area H.Q. Officials not involve in the mock drill
43	Dump Slide	Emergency declared in mine. Response time : 34 Min	No Men and Machinery entrapped in dump slide.	For Internal Dumping, dumping area should be marked with pillars and red flags. Monitoring of dump stability must be done on each shift by Shift Incharge, Overman and Mining Sirdar and record their off must be kept in bound paged book.
44	Inundation from W- River	Emergency declared in mine. Response time : 35 Min	No inrush of water in mines and all Men & Machineries had been withdrawn as water level touches withdrawal level.	Embankment height and width should be as per norms. Warning level, Danger level and Withdrawal level should be specify and marked on water danqer plan.



**OUTCOME FROM THE LEARNING OF MOCKDRILL**

S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
45	Active Fire in Dumper	Emergency declared in mine. Response time : 12 Min	Dumper was rescued and no major damaged occurred in dumper as AFDSS was active.	Advice to Colliery Engineer (Excav.), AFDSS should be maintained in each and every HEMM and record of regular checking should be maintained in a bound paged book.
46	Inundation	Every one comes in action immediately and performed their duty as mentioned in the duty card of emergency. Response Time - 09 Min.	Improved the alertness of mining staff and worker in emergency.	1) Mock drill is a good toll for improving skill. 2) Everyone shall be regularly familiar with their duty in emergency.
47	Drowning of general mazdoor into the sump	Shift incharge, overman & other staff reached at the site within 05 mintues. Response Time - 05 Min.	Life saving jackets & Manila Rope were found missing at the spot.	All the shift incharges & workmen inspector are instructe to ensure the safety items at the pump stations.
48	Sudden smoke seen in side the workshop.	1) On dated 23.03.2024 sudden smoke seen in workshop, observed by some near by persones enganed in their indiviual maintance work, this event suddenly flased in to compound without deley. This information is also conveyed to the Mine Manager and Safety Officer on walkie-talkie. Response time within 02 minutes. 2) After seeing the smoke coming from the dustbin near workshop and suddenly turn in to blazing fire. Hering this news the person staying in workshop near surrounding rushed to the site and throw the sand from fire bucket and blanketing them with the sheet. It is being observed that the Mine Manager and Safety Officer reached to the side within 05 minutes of giving the information. 3) Staying at the view point in the mine getting this information on walkie-talkie the overman informed the water tanker operator to rushed the workshop immediately and reached the workshop within 07 minutes. 4) Assistant Manager seing and observing the action / reaction very minutely and found that fire have been quenched within 10 minutes with the combined efforts of the present persons on the site within creating any havock / fear. Total Response Time: 24 Minutes	1) It is being observed that the collective cooking is done for employed persons so live ashes of burned coal might be catch fire in dust bin. 2) Some inflammeble material (unused hose pipe / grease / belt pieces etc.) in found near the dust been. 3) Some dry leaves falling from near by tree was found in scattered from which may be source of fire. 4) Some person used BIDI / Cigaret as a smoking material, which may be source of ignition for fire.	1) Dustbin used near cooking room to be maid of non inflammable material and to be kept away from the fire place. 2) Inflammable material ie grease / hoses / belt pieces etc to be away and fenced off with warning board (smoking in prohibited near this area). 3) Dry leaves falling from the trees to be collected regularly and get removed and insure that the fire has not been cought. 4) BIDI / Cigaret smoking to the avoided near imflammable / combustibile surrounding the workshop.
49	Failure of bench	6 minutes for QRT to reach . Response Time 6 min.	Ambulance reached wrong working site inside mine.	Workshop and training on Emergency preparedness.
50	Toppling of HEMM	7 minutes for QRT along with Crane at mock drill site. Resp[onse Time 7 min.	Good response from team and all concerned officials reached the spot.	Repeat of ERP training.
51	Fall of a person from Machine near the coal face.	After falling of PC Operator on the floor, the concerned person attend and observed his right leg was injured at 11.:00 am near the PC machine. First aid is given by Overman / W.I. Response time - 15 minutes.	Call the ambulance driver from First Aid room to the site of the incident. Immediately ambulance came to site of incident before arriving the ambulance we have given the first aid treatment. Then took the patient to first aid room. After 15 minutes Doctor came to first aid room given the first aid & send to the government hospital.	After the visit of patient we have observed there is no suitable communication from the site of incident to Time Office. In future no. of walkie talkie will be provided to the persons concerned.
52	Dozer topple	Coal Bench incharge informed that Dozer no. 663 toppled during marching at KCC Coal Bench at around 06:30 PM.All the response team member reached the place within the time. (19min.)	Dozer operator was unaware of the road through which he was marching the dozer after sunset.	1. Dozer operator should consult for marching route with supervisor or incharge before marching. 2. Long marching of dozer should be avoided after sunset.

**OUTCOME FROM THE LEARNING OF MOCKDRILL**

S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
53	Roadsale tipper trailer crossed over berm and toppled at coal transport road near Coal stock	Overman(Dispatch) informed that a tipper trailer transporting coal of Road sale cossed over berm and toppled near coal stock 18 at around 10:00 AM.All the response team member reached the place within the time. (11min.)	Overspeeding and drunk driving was suitable cause.	1. Drivers should be checked for intoxication at entry barrier before entry in mine. 2. Speed detectors or CCTV shall be installed at conspicuous places to monitor overspeeding of vehicules & if found overspeeding, vehicle and driver shall be blacklisted.
54	Bench slide occurrence at OB Dump	Overman informed that a bench slide occurred towards south side of OB Dump No. 20 at around 12:00 AM. All the response team member reached the place within the time. (13min.)	Height of bench was 30 meter but width of bench was 15 meter which was not as per statute and was cause of failure.	1. Proper width & height of OB Dump benches shall be maintained as per statute. 2. For critical dumps one overman shall be authorized to inspect dump on daily basis and report to concerned Incharge and shall maintain record of the same.
55	Rescue of Pump Operator near 1Dip Pump due to unconsciousness	1. Compliance of provisions of Reg. 252 of CMR 2017. 2. Rescue Team approached to 1 Dip Pump quickly on time. 3. First Aid was given to Pump Operator by First Aider and sent to Surface immediately. 4. Pump Operator was immediately sent to Hospital by Ambulance. 5. Total time require to withdraw person was about 1 hour.	1. Mock drill shows satisfactory results 2. All person below ground responded to situation quickly & calmly.	1. Regular mockdrill should be conducted.
56	Danger of Fire due to spontaneous heating	Time taken for withdrawal of person after given information to the working district TE-3 is 40 minutes.	(i)Pump operator of 44LE/33D return from intake roadway up to 34D/31L then after gathering at 34D/31L all worker return to Surface from escape route. (ii) Escape route / Haulage roadway at 30D/25L is slippery condition and it requires cleaning. (iii)Overall mock drill shows satisfactory result.	(i)Regular mock drill should be conducted. (ii)Requires improvement in awareness in workmen.
57	Fire observed in OB bench.	1) At 11:15 A.M., the dumper operator, observed the signs of smoke released near OB bench. 3) Mr. P promptly notified the Shift in Charge via Walkie Talkie within one minute. 4) The Shift in Charge informed Mines Manager, Safety Officer, the security team, and the fire team about the incident and simultaneously took corrective action to prevent further incidents at the same location. 6) The ambulance van stationed at the Mines office arrived at the incident site at 11:25 A.M. 7) Security personnel reached the incident site at 11:20 A.M. 8) The emergency was resolved at 11:45 A.M., and on-site training on emergency preparedness and response was conducted.	Regular inspection of Fire Extinguishers was not done. Timely response of officers and employees.	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) Regular checking of fire extinguisher for its better functionality.

**OUTCOME FROM THE LEARNING OF MOCKDRILL**

S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
58	Accident due to 100 Tonner Dumper	<p>1) Emergency declared at 03:15 P.M. by the Shift Incharge.</p> <p>2) Shift in charge immediately informed to Security &amp; Ambulance and his Senior official immediately (within 3 minutes).</p> <p>3) Senior official (Safety officer, Mine Manager and Assistant Manager) reached immediately at the incident location at 03:45 P.M. and took corrective action to prevent any other incident at the same place.</p> <p>4) Deployed persons at appropriate location to guide the emergency vehicles like Ambulance van and Security vehicle.</p> <p>5) Ambulance van located at Mines office reached the site of incident at 03:30 P.M.</p> <p>6) Security reached at the site of incident at 03:20 P.M.</p> <p>7) Emergency closed at 04:39 P.M. &amp; onsite training on Emergency preparedness &amp; response was imparted</p>	<p>1) There was curve at the place of incident where one-way traffic road sign need to be displayed.</p> <p>2) Approach road of the Mines Workshop area needs to be maintained in good condition.</p>	<p>1) At the turning on haul road required to prepare one-way traffic.</p> <p>2) Approach road to be maintained in good condition by deployin grader on regular interval.</p> <p>3) Educated all the workmen about the importance of Mock Drill. How we can handle such type of real situation on the basis of mock drill.</p>
59	Fire in Underground	After receiving massage of fire all persons of the district came out with MS and OM following the escape route.	Every person got acquainted with escape route.	Havoc situation should not be created in the mine. All person should be acquainted with pre decided actions.
60	Roof Fall	After receiving message of roof fall, all persons rushed to the rest selter and came out of the mine along with overman and mining sirdar	Every person got acquainted with escape route.	All person should be acquainted with pre decided actions.
61	Surface Inundation	Warning massage of inundation send to persons underground. After receiving message of inundation, all persons rushed to the rest selter and came out of the mine along with overman and mining sirdar following escape route.	Every person found acquainted with pre desided procedure.	Escape route should be free from any kind of obstruction. Havoc should not be created among the persons employed.
62	Air Blast	After hearing of whistle sound, all workers got alert, back from the working area, and went out from the panel 91LW depillaring panel of West Block of Churcha Mine RO.	Persons were awared of the emergency protocol and followed it very well.	Special training for supervisors should be provided to be protected in emergency cases like Air-Blast, Belt Fire, spontaneous heating, UG Fire, noxious and inflammable gas in UG mine for further improvement and better response.
63	Air Blast	After hearing of whistle sound, all workers got alert, back from the working area, and went to the 34X-RISE depillaring panel of East Block of Churcha Mine RO.	Persons were awared of the emergency protocol and followed very well.	Special training for supervisors should be provided to be protected in emergency cases like Air-Blast, Belt Fire, spontaneous heating, UG Fire, noxious and inflammable gas in UG mine for further improvement and better response.

OUTCOME FROM THE LEARNING OF MOCKDRILL				
S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
64	Fire in Conveyor Belt	After hearing of whistle sound, all workers got alert, back from the working area, and went out from the panel 5L-SHIVPUR BLOCK depillaring panel of West Block of Churcha Mine RO to the safe zone within 10 minutes.	Persons were awared of the emergency protocol and followed very well.	Special training for supervisors should be provided to be protected in emergency cases like Air-Blast, Belt Fire, spontaneous heating, UG Fire, noxious and inflammable gas in UG mine for further improvement and better response.
65	Frictional heating og coal dust due to defective roller in belt roadway.	At about 1.50 P.M. it was reported by the district incharge of 8LE District, Manager (Min) to CDS Operator Sri P from 8LE Belt, he noticed smoke and fumes were accumulating across -8L 1st Belt between 17X to 18X. He advised the district overman of both district (-8LE & 3dip) to restrict the workpersons under their jurisdiction from leaving the district through usual roadway till further order. CDS operator immedietly reported to Colliery Manager, Safety Officer, Ventilation Officer & Colliery manager. Colliery Manager informed Area Safety Officer, RRRT Incharge, Welfare Officer, Medical Officer & Security Incharge to Present immedietly at Incline Mouth. Safety Officer as per order of the Colliery Manager instructed district overman, who are likely to be affected Shri S Vi & G S withdrawl of workpersons through escape route along 18L. Seam No.01 up to MAMC rise intake roadway & called on RTP's of mine who were at residence. MTK Shri M & Lamp Room incharge were instructed by the Colliery Manager to enlist the name of person already present underground & restrict the entlry of successive shift workers. In the mean time RTP's of the mine reported at about 2.30 PM enter UG along with SO & VO for rescuing & dealing with Fire/Smoke. WO, MO & Securing team reached incline mouth at about in 2.55 PM & RRRT incharge & ASO reported about 3.05PM.	All the persons of return side of site of smoke was informed & escaped but the belt operator of -8L belt conveyor & 4 rise belt conveyor who was present about 160 m out by side of smoke zone at intake side should be informed earlier and deployed at safe distance to restrict the entry of anyone from intake side towards smoke zone.	Beside return side of the smoke/Fire Zone. All the persons present at intake side upto a safe distance from site of smoke/Fire should also be informed in Time.
66	Mine Fire	At about 09:30 am, Shri (Conveyor Operator) found smoke smell in TC4 belt line. He travelled along TC4 beltline and found fire beneath bottom rollers inbetween 38 L and 39 L. He informed the CDS on 09:40 am. Subsequently CDS Operator informed the Mine Manager on 09:42 am . The Mine Manager on 09:45am informed CDS to inform all the executives on duty and Emergency Response Plan (ERP) personnel. He also told to inform MTK that nobody should enter the mine. CDS Operator informed both Panel Incharge at 09:50am and they inturn inform every supervisor in their respective panels to exit the panel alongwith the workers along 50L return airway escape route and stay at 50L/3R return airway till further orders. Both panel incharges crossed the ventilation door at 50 L/ 3R and reached the TC4 belt drivehead at 10:35am. Safety Officer at 09:55 am talked to Shri Dwarika Das about adequacy of fire fighting equipment and ensured perform their respective duties as mentioned in EREP. Colliery Engineer at 10:00 am checked store for essential items & arranged for mechanical fitters,electricians,F/M, tyndal etc. Ventilation Officer on getting informed from CDS operator at 09:52 am told TC2, TC3 and TC5 belt operators to take fire extinguishers from their place to TC4 belt drive head and ordered MMV attendant to stop the MMV till further orders. Shift I/C prepared the list of personnel inside the mine at 10:15 am. Survey Officer checked the Rescue Plan at 10:10 am. Meanwhile CDS operator informed Agent,RRRT Incharge, Area Safety Officer, Medical Officer, Welfare Officer, Security Guard Incharge and the Rescue Trained persons, WI's & all the persons reached the Mine Office by last 10:35 am. Mine Manager, Safety Officer, Colliery Engineer, Ventilation Officer alongwith RTP's and Shift Incharge get down the mine on 10:15 am & reached TC4 drive head at 10:45 am. Shift I/C cross checked the list of working personnel with the persons present there.	1.The nozzle of the fire extinguisher kept at TC4 belt drivehead was found choked. 2. During the time of travelling through escape route, the supervisors were walking ahead of workment.	1. The inspection of fire extinguishers kept in the mine should be more efficient. 2. During the time of travelling through escape route, the supervisors should walk behind the workment to keep dye on them and should be the last person to come out of the mine.
67	Air Blast	After hearing of whistle sound all workers got alert & back from the working area and took shelter in Air Blast Station of T-20 Panel within 05 minutes.	Persons were awared of the emergency protocol and followed it very well and responded very quickly & safely.	Special training for supervisors should be provided to be protected in emergency cases like Air-Blast, Belt Fire, spontaneous heating, UG Fire, noxious and inflammable gas in UG mine for further improvement and better response.
68	Fire	Observation- 1. All the people assembled at the assembly point. 2. The ambulance was found with all the necessary equipment. Response time - 1. security personal r eached within 5 min 2. Fire tender and Ambulance reach the site within 15 min	1. Fire hyddrant not working properly. 2. Most of the People not aware how to deal with this type of fire.	1. Fire fighting training to be conducted every year. 2.Effective fire hydrant to cover large area to handle this type of situation. 3. Awareness session to be conduct at regular interval.

**OUTCOME FROM THE LEARNING OF MOCKDRILL**

S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
69	Electrical Shock to Pump Operator	1. Rescuer did not wear Rubber hand gloves while detaching the victim from electrical panel. 2. Emergency contact Number not displayed at pumping station. Respones Time-28 Mins	1. Rubber hand gloves were available but didn't wear.	1. Electrical Helpers should be trained how to rescue person from electric shock. Action- Training Imparted 2. Emergency contact no should be displayed at Pump Station. Action- Emergency Contact no shared to every one.
70	Emergency Situation: A case of theft attempt in Magazine Area	11.00AM Occurrence of the incident(two persons were trying to crossthe fince and get into the magazine area. 11.03AM Guards posted in the Magazine took cognizance and informedthe control rook on Walkie Talkie. Guard also informed the Magazine Incharge and Blasting Office about eh same. 11.06 AM Safety Officerresponded and informed mine manager about the incident. 11.12 AM Control room operator informed the Blasting Officer and Mine Manager about the happenings. 11.18AM Shift I/Creached the site alongwith the overman. 11.27 AM CAF caughtand took control over the intruders/thieves. 11.30AM Safety Officer, Blasting Officer and Magazine Clerk reached at the site.	1. There was a delay in communication with the control roomas there was no dedicated staff placed for the purpose. 2. There was no alert system provided to security personnel in the site.	Immediate staffing of the personnel in control room.This would reduce the response time and improve in better communications. 2. An emergency siron may be placed at theExplosive Magazine Area for provising alertness in case of emergency.
71	Emergency Situation: Fire has broken out in a diesel tanker in workshop area of East Pit.	12.23PM Occurrence of incident 12.24PM First responder informed the control room and the shift incharge about the incident. Shift I/C inquired about the incident from the first responder and instructed him to maintain a safe distance and gather the persons at assembly point. 12.26PM Shift I/C informed control room and Safety Officer about the incident. He also directed Mechanical Supervisor to forward the message to Colliery Engineer and reached the site of incident at the earliest. 12.29 PM The control room tried contacting the Medical officer and Fire Tender through mobile phones. Message was conveyed to both at 12.33PM and 12.38 PM respectively. 12.33PM Safety Officer and Colliery Engineer reached the site of incident. 12.37PM Shift I/C reached the place of incident. 12.58PM Ambulance reached the site of incident. 12.59PMFire Tender arrived at the site of incident. 1.02 AM The fire was put out.	1. Adequate number of the fire extinguishers were not available at the place of incidence to control the fire. The pressure indicators in the available fire extinguishers were in the red zone. 2. There was not mobile network at the zone of the incident due to which the communications to the officials as well as Ambulance and Fire Tender got delayed. 3. The fire crew were not conversant with the mine route.	1. The availability of adequate numbers of Fire Extinguishers to be ensured at all important locations. 2. Mobile network connectivity needs to be improved in East Pit area. The Ambulance and Fire Tender may be equipped with the Walkie Talkie stations to strengthen omunications and avoid network issues. 3. Fire Tender crew members should be mde thoroughly conversant with the Mine Routes. Fire crew members may be clubbed with ambulance staff in the present mine route familirization programme
72	Fire Emergency(Smoke observed from bushes at dump 1)	1.A Shift Security Incharge reached the site at 10.35 AM with five security personnel and fenced the area to prevent unauthorized entry. 2. The Fire van (4 in 1)and the tender (CHP)arived at the site location at 10.30 and 10.35AM within a response timeof 07 and 13 minutes respectively. 3. The Ambulance arrived at 10.30AM with a commendable response time of 9 minutes and standby for any potential rescuer operations. 4. The mock drill concluded smoothly at 10.40AM ensuing valuable insights into emergfency response procedures and enhancing overall preparedness.	1. After receiving the message Shift Incharge conveyed message to Asstt. Shift Incharge with considerable delay. 2. Not blown emergency siren to declare emergency and for clearance by the shift incharge.	1. Shift Incharge should convey the message immidiately to deal the emergency mine for taking prompt action on priority. 2. Don't forget to blow emergency siren to declare emergency and 1- siren for clearance.
73	Dump Slide of Active OB Dump at OCM	All Key Persons reached in time to the spot. However some came late.	PC came late due to long marching	One type of material to be dumped at OB Dump with proper compaction.
74	Dump Slide	Communicated from Sr. Overman to Colliery Manager, Production Incharge, Safety Officer & MTK, Within half an hour the rescue team attend at the spot	Communication system was not proper due to which communicated to key person three minutes late	Proper communication system from every part of mine to key persons should be maintained
75	Dump Slide	Communicated from Mining Sirdar to Overman and MTK. MTK communicate the message to Colliery Manager, Safety Officer, Production Incharge. Within half an hour dump monitoring cell attend at the spot	Communication system was not proper due to poor network and also shortage of walkie talkie.	Improve network issue for proper communication to key person.
76	Fire in Workshop	After receiving the information from control room, all the key persons immediately rushed to the site. Fire extinguisher werer made available. Water tanker came late.	Fire tender was breakdown. Water tanker which was parked near MTK office., was empty. Water tanker with filled water came late at site.	Water tanker should be parked with filled water in tank. Fire tender should be maintained for emergency use.

**OUTCOME FROM THE LEARNING OF MOCKDRILL**

S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
77	HEMM Vehicle collision, Driver evacuation	The Supervisor called the shift incharge at 11:35AM and shift incharge reached at 11:42AM. After receiving the call, the Shift Incharge called the Ambulance at 11:39AM and Ambulance reached at 11:45AM. Shift Incharge also called Security team at 11:38AM, Mine Manager at 11:39AM, Fire Tender at 11:41AM, Safety Officer at 11:42AM and Security team reached at site on 11:48AM. Fire Tender reached at 11:54AM and Safety Officer reached at 11:50AM. Ambulance left the site at 11:53AM and reached the First Aid Room at 11:56AM. 1. Vehicle security team, Mine Manager, Fire Tender, Safety Officer and Security Team were promptly informed and dispatched to the scene. 2. Immediately medical assistance was provided by ambulance team. 3. Safety measures like fencing of vehicle and other were implemented upon the arrival of the safety and security team.	1. Ambulance siren was not working and Ambulance went in wrong direction. 2. Vehicle movement were not stopped in that direction. 3. Road condition was found slippery so response timing increase in all way. Emergency Team and vehicle not responded timely.	1. Position of Hooter must be changed and provision should be made for new view point for the placement of Hooter 2. Ambulance siren should be required on priority basis. Additional direction boards should be displayed at working area to reach unknown person without asking any person. 3. Review of emergency response procedure to identify areas for improvement. 4. Counselling and support for individuals involved in the mock drill.
78	Response time of QRT and Emergency Control Room for dispatch of Ambulance.	Mock Drill by Security department to check the response time of QRT and emergency control room for sending of Ambulance. A situation was created near mine main gate of collision between Bolero Camper and a motor cycle. After getting message from Mine Main Gate regarding accident the QRT team had reached the site within 4 minutes and start the rescue and ambulance has reached within 07 minutes from CHP parking area to Mine Main Gate.	1. Handling of injured person is not in proper way.	First Aider training should be given to all security personnels so that in such situation they can handle the injured persons carefully.
79	Air Blast	All people working in district were reached to "ABS" on time after blowing whistle. Response time 3 minutes	Mock Drill successful	Suggested/Instructed all work persons and supervisors to immediately proceed ABS after hearing whistle. Safety time given to all persons by supervisory staff.
80	Inundation	Every employee was very alert	Every employee was very alert but one pump operator Shri Mohar Sai found not trained regarding this situation.	All pump operators need to be trained by VTC for inundation situation.
81	Air Blast at Depilating Panel.	After continuous whistling by Mining Sirdar, Overman and all the employees left their assigned job and rushed to take shelter in ABS within 3 minutes	All the employees were safety conscious and all supervisors were equipped with necessary equipments.	ABS also to be kept free from any obstacles.
82	Air Blast at Depilating Panel.	After continuous whistling by Mining Sirdar, Overman and all the employees left their assigned job and rushed to take shelter in ABS within 3 minutes	All the employees found to be safety conscious.	Direction towards ABS shall be shown by Arrow mark.

OUTCOME FROM THE LEARNING OF MOCKDRILL				
S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
83	Air Blast at 1 East Depilaring Panel.	After continuous whistling by Mining Sirdar, Overman and all the employees left their assigned job and rushed to take shelter in ABS within 3 minutes	All the employees were fully aware of the instruction & SOP provided to them.	1. The way towards ABS shall be kept free of all obstructions. 2. Beyond the mock drill the interactive session at the starting of the shift shall be conducted by panel overman to check out efficacy of SOPs provided to them.
84	Air Blast at Depilaring Panel.	Every employees were very alert for situation of Air Blast and after whistling of Mining Sirdar every concern persons take place immediately at ABS.	Every employees is very alert.	Mock reharsel for Air Blast situation need as regular basis.
85	Welder got unconscious suddenly during welding job in workshop.	1. Information received to Mine manager Sindola at 12:15 Hrs by Shift Incharge over phone. 2. Ambulance and security incharge reached at site at 12:22 3. Injured person kept in Ambulance at 12:25 Hrs 3. Ambulance reached at OHC at 12:28 <b>Response Time- 13 minutes</b>	Security took time to open the mines main entry gate even after information.	When ambulance approaching to the mines with siren, gate should open immediately.
86	Helper slipped and fall on ground at workshop	1. Information received to Mine manager Govari at 10:05 Hrs by Shift Incharge over phone. 2. Ambulance and security incharge reached at site at 10:08 3. Injured person kept in Ambulance at 10:13Hrs 3. Ambulance reached at OHC at 10:25 <b>Response Time- 10 minutes</b>	Siren was not used by driver when ambulance reached to spot. All Gate was in open condition. No Traffic on the way.	Driver should use siren when approaching to any medical emergency.
87	Fire in Mines Garage (Dumper Section )	Emergency spotted - The Garage Mechanic observed smoke from waste oil tray area , approached the site to assess the situation. Upon inspection, discovered there was fire originating from Cotton waste & waste oil that had been kept in a tray. Garage Mechanic immediately gave fire information to Engineer of Mines , Shift Incharge -Mines , Mines Manager. Garage Mechanic Tried to extinguish fire by portable extinguishers. Shift Incharge informed to security , Fire tender & Ambulance. Mines manager reached to site with Shift incharge & Engineer of the Mines . Fire tender reached the site. Safety officer reached to site.Safety crew reached to site along with fire tender. Takan situation under control & Fire extinguished. All clear signal has been given by the incident controller of Mines, Area after verifying the incident spot along with Safety, fire & security team. <b>Following gaps positives observed during the Emergency Mock Drill :</b> 1) Dumper maintenace team observed & informed immediately to Engineer of the Mines , Mines Manager , Shift Incharge 2) Garage Mechanic immediately tried to quench the fire by portable foam type fire extinguisher available at the location 3) Fire tender along with the team reached the incedent spot in time and controlled the fire &	Ambulance Reached Late at site.	Sand buckets was available in the vicinity -can use along with portable fire extungusher.
88	While stemming in charged deep one of blasting crew member effected by heat cramps.	In blasting site stemming work was going on after charging of deep hole.While stemming in the deep charged hole blasting helper Mr. T caused heat cramps at 12.00 PM. The foreman saw the blasting helper Mr T and informed immediately to shift in-charge. Shift in charge informed to Mines Manager, control room & First Add team. Ambulance reached at site at 12.10 PM. Since there was no such incident, people were educated regarding heat cramps and heat stroke as well educated them how to peotect ourself from heat effect on body in summer season . One mock drill casualty evacuated and shifted to dispensary /hospital where medical team was available. (Ambulance reached at Dispensary at 12.18 PM).Importance of Mock Drill explained to workers. Mock Drill Completed in 18 Min. Response time :- Ambulance reached at Mock Drill location - 10 minutes Ambulance reached at Dispensary-8 Min <b>Total Responsel Time :- 18 Minutes</b>	Blasting helper didn't drink enough water although there is enough availibility of water at working place.	Awareness imparted to all employees about heat cramps, stroke and summer heat effect on human body and how to take precautions against it.

**OUTCOME FROM THE LEARNING OF MOCKDRILL**

S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
89	Vehicle Collision in the Mines	<p>Flow of information correctly done (OHC/ Fire/ Ambulance/ Mines Manager/Incident controller/ H&amp;S/ Security/ HR): ECC informed ambulance, rescue team, Mines Head, H&amp;S &amp; Agent/Chief Operation Manager.</p> <p>a. Time of receipt of information at Control Center/ designated emergency control center: 15:47 Hrs.</p> <p>b. Accuracy of Information/ Incident brief: Information was accurately conveyed, the rescuer, Fire Tender and ambulance reached to correct location based on information received.</p> <p>c. Rescue, Fire squad, Ambulance reached at site at : 15.50 hrs.</p> <p>d. Availability of correct equipment (including AED if first aider/ paramedic) with first responder: Yes , appropriate.</p> <p>1. Evacuation to OHC: a. Time taken to board injured person in ambulance: 01 Min. b. Time Ambulance reached OHC: 16.02 hrs. c. Ambulance siren: No. d. Any other observation: No.</p> <p><b>Total Response Time: 15 Minutes</b></p>	<p>Railway crossing was closed but main gate security not directed the ambulance driver to use emergency gate.</p>	<p>Training to Security personnel on emergency preparedness.</p>
90	Incident happened due to drill helper affected by Heat stroke and collapsed on the ground.	<p>1).ICM 1 was running in the Pit-3 , 1st bench, helper affected by Heat wave and collapsed on the ground.</p> <p>2). 3.42 pm, Incident has happened.</p> <p>3).3.44 pm, The Mine foreman Mr. Shubham Harkar ,who was present on the site ,attend the IP &amp; Immediately informed about the incident to the Shift Incharge Mr. Ramesh Girhe &amp; first aid team.</p> <p>4) 3.46 pm, Shift Incharge immediately rushed to the site.</p> <p>5) 3.50 pm, Arrange the first aid and also inform Ambulance, to shift the injured person to OHC for further treatment .</p> <p>6)3.51 pm,Informed to the Mines Manager.</p> <p>7)4.05 pm,Ambulance reached at site.</p> <p>8) Declare the emergency by hooting the emergency siren.</p> <p>9)4.08 pm, Ambulance reached at shift OHC in mines.</p> <p>10) Observe Heat stroke.</p> <p><b>Total response time: 26 minutes</b></p>	<p>Helper has not taken proper precautions to protect from heat like cotton fitting clothes, umbrella and plenty of cold water to protect from sunburn.</p>	<p>1. Drink plenty of cool water.</p> <p>2. Always wear light color,lightweight fitting clothes.</p> <p>3. Take an Umbrella to protect from sunburn.</p> <p>4. If we observe ,Heavy sweating,Paleness,Muscle cramps,Tiredness,Weakness, Dizzine-ss, Headache, Upset stomach or vomoting,Fainting etc in our body , take immediate help from others.</p>



**OUTCOME FROM THE LEARNING OF MOCKDRILL**

S.NO	TYPE OF MOCK DRILL	OBSERVATIONS	LEARNING	OUTCOME
91	Fire Mock drill	A briefing was done informing about the emergency Mock drill scenario and the objective of the drill, we addressed the workers about Fire emergency. The objective of mock drill is to review the emergency preparedness plan of the organization and evaluate standard operating procedure, so that concerned persons would deliver their duties effectively while keeping in cognizance of life and property. <b>Response Time: 20 minutes.</b>	1. The key to putting out a fire with an extinguisher is to use the PASS strategy: Pull, Aim, Squeeze, and Sweep. 2. Awareness created amongst the workmen regarding the replacement as a good rule of thumb, you should plan to replace your disposable fire extinguisher every 12 years. If you aren't sure how old your extinguisher is then you can check the pressure gauge on a monthly basis to ensure it's still functional. 3. Awareness to be created amongst the workmen regarding do not keep any Company assets & electrical wiring near flammable liquids and light any flames nearby Office premises. Start moving out of the danger/fire. Consider where the nearest exit is.	1. Awareness to be created amongst the workmen regarding, respond to the alarm immediately and as soon as a person observes any fire, he shall shout three times loudly that, "fire, fire, fire" and emergency information should be given to your supervisor immediately. 2. Should create awareness amongst the workmen regarding the usage of fire extinguishers Class A: solid materials such as wood or paper, fabric, and some plastics. Class B: liquids or gas such as alcohol, ether, gasoline, or grease. Class C: electrical failure from appliances, electronic equipment, and wiring. Class D: metallic substances such as sodium, titanium, zirconium, or magnesium. 3. Awareness to be created amongst the
92	Fire in HEMM	1. Mining Sirdar shown alertness and rescued the Excavator operator from PC no XX. 2. Overall drill was satisfactory and the response time of all concerned was very appreciable. 3. Safety officer at the end of mockdrill concluded with a safety talk and appreciated the response of the workers involved in this drill. <b>4. Total Response Time :17 Min</b>	No shortcoming was observed.	1. Regular washing of HEMM is required to reduce the risk of fire in HEMM. 2. Proper maintenance of AFDSS is required to deal with the situation. 3. Operator should be conversant with mechanism of AFDSS. 4. Regular cleaning and checking of hoses is required to eliminate the risk of fire in HEMM.
93	Fire in HEMM (Excavator/PC)	<b>Start time: 1.30 pm &amp; Completion time 2.00 pm.</b> <b>Total Response /Mock Drill Time: 30 min.</b> Response Time Details. 1. Time between observation of fire in Excavator & information to shift incharge: 02 min. 2. Information to Colliery manager & Safety Officer : 01 min. 3. Ringing Siren: 02 min. 4. Control Room establishment time: 02 min. 5. Formation of teams for checking and inspection of excavator after clearance of fire : 01 min. 6. Inspection of excavator by team : 07 min. 7. Fire tender and Ambulance was already available at control room. 8. Information to every point was given quickly through walkie talkie.	No Short Comings was Observed.	1. Implement a rigorous maintenance schedule for hydraulic systems, engines and electrical components to identify and address potential issues before they escalate into fires. 2. Prevent oil spillage during topping. 3. Prevent diesel spillage during refuelling of hydraulic excavators. 4. As per SOP, safe quantity of diesel shall be refuel to prevent spillage.
94	Failure of Dump	1. The Mock rehearsal was conducted without panic. 2. Withdrawal of persons to the safe place was done. <b>Response Time : 22 minutes</b>	Slow marching of HEMM.	Poor maintenance of HEMM.
95	Fire in HEMM (Dumper)	1) The Mock rehearsal was completed without any panic. 2) Welfare Officer and the Doctor also reached in control. 3) No Injury to any person no damage to any equipment accord. 4) Maximum Response time was 07 minutes.	Fire Tender reached on spot without Nozzle.	Hose Pipe and suitable Nozzle always keep in Fire Tender.
96	Danger against Fire & Spontaneous heating.	Immediate action on occurrence of fire at 46LE/1D-2D in roof fall CDS operator given message to all part of Mine. Response Time : 19 Min.	Message not conveyed to TB2 belt due to not availability of telephone.	Telephone installed at TB2 belt.
97	Fire in Excavator	Response Time - 20 Min 1) Portable fire extinguisher used & water spraying by water tanker. 2) Mock rehearsal conducted successfully without any obstacle 3) No workmen was harmed during mock rehearsal.	1) Fire tender is not available. 2) Shortage of walkie talkie	1) Fire tender is required in emergency. 2) Adequate walkie talkie sets should be provided.

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<b>S.NO</b>	<b>TYPE OF MOCK DRILL</b>	<b>OBSERVATIONS</b>	<b>LEARNING</b>	<b>OUTCOME</b>
<b>98</b>	Dump failure.	1.All persons informed and reached the spot within 20 minutes. 2.Withdrawn of all persons and machines from the affected area within 30 minutes.	No any short comings observed	1. Safety Talk and demonstration given to all supervisors, dozer operators, what to do during dump failure.
<b>99</b>	Fire in crusher plant.	1.All person inormed reached the spot within 20 minutes . 2. Fire tender reached the spot in time . 3.Fire tender and workers work efficiantly and effectively. 4.Fire was fully controlled within 40 minutes.	No any short comings observed	1. Safety talk given regarding use of fire extinguisher.
<b>100</b>	Working at hieght	Obsevation: 1) During work, a fitter fell from a height of over 1.8m due to not wearing a safety belt. 2) Person was working in the workshop when the incident occurred. Response time:1) Attend to the fallen fitter first assess and ensure what kind of injuries are persent.2 min. 2)Inform to the Manager.Safetv office. Emergaency control & Ambulance-2 min		suggestions: 1) First, use all safety features and PPE During working. 2) Strictly follow the SOP and COP