



STANDARD OPERATING PROCEDURE

FORM NO.HSE/CORP/4

	ACTIVITY	Storage of Explosives		SITE	SMC	DEPARTMENT	Mining
SOP NO.	IMFA/SOP/SMC/MINING/02	REVISION	00	EFF DATE:	19.6.14	NO. OF PAGES	Page 1 of 6

Step No.	Activity (WHAT)	Associated Requirements/ Hazards/ Impact	Process / tools / PPEs (HOW)	Responsibility (WHO)	Remarks / Reference
1	Explosives to be stored in a Magazine	Quality – i)Explosives will be stored in Magazine only. ii)The quantity of explosives to be stored iii)Maintain the safety distance of overhead transmission line from the Magazine. iv)Explosive to be purchased in a calender month	i)Explosives shall not be kept in any building except the magazine duly approved by the licensing authority under Indian Explosives Act.1884 ii)The quantity of explosives on the premises at any time shall not exceed the licensee capacity. a)Nitrate mixture - Class 2 - 5000kg b)Safety Fuse – Class 6.1 - 2000 mtrs c)Detonating Cord –Class 6.2 - 10000 mtrs. d)Detonator – Class 6.3 7500 nos. iii)Ensure that from the magazine, the safe distance of electric power over head transmission lines below 440V will be maintained at a distance 15 meters and above 440V will be 90 meters iv)The maximum quantity of explosives purchased in one calender month shall not exceed three times of licence capacity.	Magazine Incharge/ Blasting Foreman Magazine Incharge Electrical Engineer Magazine Incharge	DOC NO.WI/OPRN/03
		OH&S– i)Sparking hazard ii)Sparking hazard	i)All electrical switches shall be located on the out side of the magazine. ii)The interior of the Magazine, shelves and fittings therein shall be so constructed or so lined or covered as to prevent the exposure of any iron or steel contact with the explosives.	Electrical Engineer Civil Engineer/ Magazine Incharge	DOC NO. HIRA/MINING/02



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		Environment - i)Air pollution(smoke) due to fire	i)Fire extinguisher will be provided at the exterior i.e. out of fencing. of the magazine.	I/C Fire Safety	Aspect No.1
2	Repairing & Maintenance of Magazine	Quality– i)Repairing & Maintenance ii)Fences around the Magazine iii)Provision of adequate lighting at the Magazine area iv)Earthing of lightning conductor will be checked half yearly. v)Emergency siren	i)Interior shall be kept clean, dry and free of grit, paper etc. Magazine shall at all times be kept in state of good repair or maintained in good condition. ii)To secure the Magazine, fencing will be provided and properly maintained. iii)Adequate lighting will be provided for proper illumination around the Magazine. iv)The resistance of lightning conductor to earth shall be checked half yearly and in no case be more than 10 ohms. v)Check the effectiveness of emergency siren.	Magazine Incharge Magazine Incharge Electrical Engineer Electrical Engineer Electrical Engineer/ Magazine Incharge	DOC NO.WI/OPRN/03
		OH&S– i)Dampness and heating of explosives.	i)Magazines shall be well ventilated and ventilating screens shall be kept clear at all times.	Magazine Incharge	DOC NO. HIRA/MINING/02
		Environment - i)Air pollution(smoke) due to fire	i-a)A distance of 15 meters surrounding the magazine shall be kept clear of dried grass or bush or flammable materials.	Magazine Incharge	Aspect No.1



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			<p>b)Sufficient stock of fire extinguishers, sand and water shall be kept near the Magazine.</p> <p>c)Empty explosive cartoons shall be collected and disposed off in an impervious pit.</p>		
3	Storage of Explosives	<p>Quality–</p> <p>i)Person responsible for Magazine</p> <p>ii)See the condition of explosive packages.</p> <p>iii)Storing of explosives & detonator</p> <p>iv)Check the storage and manufacturing details.</p>	<p>i)Every magazine will be in the charge of a competent person who shall be responsible for the proper receipt, storage and issue of explosives.</p> <p>ii)Every package of explosive at the time of bringing inside the magazine shall be examined for its sound condition and manufacturing details.</p> <p>iii)Explosive and detonator will be stored in separate room.</p> <p>iv)The explosive packages shall be stocked in such a way so as to allow movement of at least one person to check the condition of all packages stored and the manufacture particulars of each package.</p>	<p>Magazine Incharge</p> <p>Magazine Incharge</p> <p>Magazine Incharge</p> <p>Magazine Incharge</p>	<p>DOC NO.WI/OPRN/03</p>
		<p>OH&S –</p> <p>i)Shock due to fall</p>	<p>i)Packages of explosives shall be laid flat with top side up and shall be piled in a stable manner.</p>	<p>Magazine Incharge</p>	<p>DOC NO. HIRA/MINING/02</p>



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		ii)Dampness and heating of explosives	ii)In the case of any explosives liable to be dangerously affected by water, due precautions shall be taken to exclude water there from.	Magazine Incharge	
		Environment – i)Air pollution(smoke) due to fire	i)Empty packages shall be removed at the earliest and destroyed.	Magazine Incharge	Aspect No.01
4	Guarding & Issuing of key	Quality– i)Magazine key will be issued or returned to the office security. ii)Guarding of Magazine round the clock iii)Recording of persons entering to Magazine	i)Magazine key will remain in the custody of office security and will be issued only to the persons authorised by the Mines Manager. ii)The security persons will be engaged for 24hrs. guarding at the Magazine. iii)The security will allow such persons to enter Magazine those allowed or authorised by the Mines Manager. He shall keep a record of persons in a bound paged book entering to the magazine.	Office Security I/C Security Magazine Security	DOC NO.WI/OPRN/03
		OH&S –Nil			DOC NO. HIRA/MINING/02
		Environment- Nil			
5	Inspection	Quality– i)Inspection at regular interval	i)The Manager or Asst. Manager authorised by the Mines Manager for the purpose shall once at least in every week, check the stock of explosives in the magazine, and compare it against the records maintained by the Magazine	Asst. Manager	DOC NO.WI/OPRN/03



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			Incharge.		
		OH&S –Nil			DOC NO. HIRA/MINING/02
		Environment- Nil			
6	Record of Explosives	Quality– i)Issue & Return of Explosives	i)The person in charge of the magazine shall maintain in a bound paged book, a clear and accurate record of explosives issued to each competent person and a similar record of explosives returned to the magazine	Magazine Incharge	DOC NO.WI/OPRN/03
		ii)Maintain the of Records	ii)He shall keep records and accounts of all explosives in Forms RE-3 and RE-5, as the case may be. The stock books in the prescribed proforma shall be page numbered.	Magazine Incharge	
		OH&S –Nil			DOC NO. HIRA/MINING/02
		Environment- Nil			
7	Emergency	Quality– i)In case of emergency	i-a)In case of thunder storm & lightning - No explosives will be issued from the magazine. b)In case of fire- Blow the emergency siren and activate the fire fighting arrangement. c)In case of persons entering forcibly- Switch on the emergency siren -blow whistle to attract the others help-Contact to to Main gate and give immediate information.	Magazine Incharge Magazine Security	DOC NO.WI/OPRN/03
		OH&S –Nil			
		Environment- Nil			

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Name Designation Signature: Date:	Prepared by M.K. Samal Mines Manager	Approved by S. Patni Sr. GM-SCM
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NOTE :**SIX DIRECTIONAL HAZARD IDENTIFICATION DURING JOB :**

In addition to the above SOP, a 6-directional hazard identification sheet shall be used before start of the job. While executing the job at site, any hazards from six directions (**NORTH, SOUTH, EAST, WEST, TOP, BUTTOM**) to be assessed based on physical observation, common sense & experience. Controls shall be taken for any hazards thus identified.

TRAINING RECORD OF SOP:

The Training on this SOP with six directional hazards is to be imparted to concerned employee and contract workers by Shift In-Charge / Deptt. Head as applicable. The Training Record to be maintained in a register with signature of the individual employees before starting of the job.