

EXPLOSIVES STORAGE HIF AUDIT PART 2 U/G - 17/06/2003 02:54:50 PM**6. SIGNAGE AND EMERGENCY EQUIPMENT - U/G MAGAZINES**

Point	Standard	Guideline
6.1	'EXPLOSIVES' sign prominently displayed.	Intent : To verify compliance with MSIA regulation 4.10 re signage. Personnel : N/A Method : Inspect the magazine location.
6.2	'NO SMOKING' sign prominently displayed.	Intent : To verify compliance with MSIA regulation 4.10 re signage. Personnel : N/A Method : Inspect the magazine location.
6.3	Fire extinguishers are posted at the magazine ventilation intake side of the access.	Intent : To verify that fire fighting equipment is provided at the magazine location. Personnel : N/A Method : Observed location and inspect the service tag of any extinguishers.

7. MAGAZINE CONSTRUCTION - WORKING PARTY MAGAZINES

Point	Standard	Guideline
7.1	The magazine is appropriately located away from travelling ways.	Intent : To verify compliance with MSIA regulation 8.9. Personnel : N/A Method : Inspect the magazine location.
7.2	All intersecting boreholes have been sealed off.	Intent : To verify compliance with good practice. Personnel : N/A Method : Inspect the magazine location.
7.3	The magazine is adequately ventilated.	Intent : To verify compliance with MSIA regulation 9.14. Personnel : Ventilation Officer. Method : Inspect the magazine location and obtain a recent ventilation plan.
7.4	The magazine is properly drained and free of water ingress.	Intent : To verify compliance with MSIA regulation 8.9. Personnel : N/A Method : Inspect the magazine location.
7.5	The magazine has secure walls and backs.	Intent : To verify compliance with MSIA regulation 10.13. Personnel : N/A Method : Inspect the magazine location.

8. STOCK CONTROL - WORKING PARTY MAGAZINES

Point	Standard	Guideline
8.1	A procedure is in place to control the storage of explosives in working party magazines.	Intent : To verify that procedures have been established to control the storage of explosives in working party magazines. Personnel : Manager, underground explosive users. Method : Interview relevant underground personnel in regard to procedures.

8.2	The stock delivered is promptly stored.	Intent : To verify that explosive deliveries are promptly placed into the magazines and secured. Personnel : Manager, underground personnel etc. Method : Interview personnel involved in explosive deliveries ie IT operator and users of explosives. Inspect the magazines.
8.3	Old or redundant stock is disposed of and not kept in the magazine.	Intent : To verify that old, damaged or redundant explosives are promptly disposed of and not kept for prolonged periods in the magazine. Personnel : Underground explosives users, shift supervisors etc. Method : Interview relevant personnel and inspect the magazine stocks.
8.4	Stock levels are within statutory limits.	Intent : To verify that stocks kept in the magazine conform to the MSIA regulation 8.9 limit ie limited to 2 days normal usage. Personnel : Shift supervisor, explosive users etc. Method : Perform a stock check and cross reference to level of mining activity and daily usage.
8.5	Detonators and explosives are kept in separate magazines where practicable and where it is demonstrated to be impracticable they are contained and separate from each other so as to prevent sympathetic detonation.	Intent : To verify that explosives and detonators are segregated from each other as required by MSIA regulation 8.16. Personnel : N/A Method : Inspect the magazines.
8.6	The working party magazine stock is rotated.	Intent : To verify that stocks are rotated in the magazines. Personnel : Shift supervisor, explosive users etc. Method : Check magazine stocks interview relevant personnel involved with delivery and handling.
8.7	Explosives are kept in approved manner.	Intent : To verify that explosives are correctly stored in the magazine as required by MSIA regulation 8.9. Personnel : N/A Method : Inspect the storage of explosives in the magazine. Purpose designed containers etc only should be used.

9. HOUSEKEEPING - WORKING PARTY MAGAZINES

Point	Standard	Guideline
9.1	The magazine is clean and dry.	Intent : To verify good housekeeping practices in the magazine operation. Personnel : N/A Method : Inspect the magazine.
9.2	No rubbish is allowed to accumulate within the working party magazine.	Intent : To verify good housekeeping practices in the magazine operation. Personnel : N/A Method : Inspect the magazine.
9.3	No spilt material is left in the magazine.	Intent : To verify good housekeeping practices in the magazine operation. Personnel : N/A Method : Inspect the magazine.

10. MAGAZINE CONSTRUCTION - U/G MAIN MAGAZINE

Point	Standard	Guideline
-------	----------	-----------

10.1	Notice has been given to the District Inspector of Mines of the location and design.	Intent : To verify compliance with MSIA regulation 8.5. Personnel : Manager Method : Obtain the record for such notification.
10.2	Appropriately located away from other major installations.	Intent : To verify compliance with MSIA regulation 8.5. Personnel : N/A Method : Check the magazine location and obtain a location plan for the written report.
10.3	All intersecting boreholes have been sealed off.	Intent : To verify compliance with MSIA regulation 8.5. Personnel : N/A Method : Inspect magazine walls, backs and floor.
10.4	Adequate access into the magazine is afforded for bulk deliveries eg. pallets of ANFO. Including room to safely park and manoeuvre vehicles used.	Intent : To verify that the use of an IT or other large piece of mobile machinery within the magazine confines does not constitute a hazard. Personnel : U/G Manager, Shift supervisor, IT operator etc. Method : Inspect the magazine and its access for suitability for bulk delivery equipment used. Interview personnel.
10.5	The magazine is ventilated directly into return airway.	Intent : To verify that the magazine is ventilated so as in the event of a fire the fumes generated are directed away from the working areas. Personnel : Ventilation officer. Method : Check ventilation in the magazine area and obtain a recent ventilation plan.
10.6	The magazine can be securely locked against unauthorised entry.	Intent : To verify that the magazine facility can be locked and secured against unauthorised entry. Personnel : General underground personnel. Method : Interview general mine personnel as to access to the magazine. Inspect the magazine.
10.7	The magazine is properly drained and free of water ingress.	Intent : To verify good housekeeping practices in the magazine operation. Personnel : N/A Method : Inspect the magazine.
10.8	The magazine contains no electrical wiring except that required for authorised lighting installations.	Intent : To verify that only wiring installed in the magazine complies with MSIA regulation 8.7. Personnel : Manager. Method : Inspect the magazine, if any electrical wiring is present then it must comply with AS2236.
10.9	The magazine has secure walls and backs.	Intent : To verify that secure ground conditions are maintained in the magazine and its environs in compliance with MSIA regulation 10.13. Personnel : N/A Method: Inspect the magazine walls and backs.
10.10	The magazine is white washed to improve illumination.	Intent : To verify that as per good practice maximum illumination within the magazine is maintained. Personnel : N/A Method : Inspect the magazine.
10.11	All butts or drill holes in the magazine excavation have been washed and cleaned to ensure that they are free of residual explosives.	Intent : To verify that there are no old residual explosives within the magazine. Personnel : N/A Method : Inspect the magazine location.

10.12	The magazine doors or gate open outwards.	Intent : To verify compliance with good practice. Personnel : N/A Method : Inspect the magazine doors etc.
10.13	There is provision to prevent the magazine doors from accidentally closing.	Intent : To verify good practice that prevents injury etc should the doors accidentally close. Personnel : N/A Method : Inspect the magazine doors.

11. STOCK CONTROL - U/G MAIN MAGAZINE

Point	Standard	Guideline
11.1	A person has been appointed to control the main underground magazine.	Intent : To verify compliance with MSIA regulation 8.6. Personnel : Manager and the appointee. Method : Interview the manager and appointee in regard to an appointment.
11.2	The appointment is recorded in the record book.	Intent : To verify compliance with MSIA regulation 8.6 Personnel : Manager. Method : Check the Mine Record Book for appointment.
11.3	The appointed person keeps records of incoming and outgoing stock.	Intent : To verify that records are kept of explosive stock movements. Personnel : Manager, shift supervisor etc. Method : Check magazine records.
11.4	There is a system in place to rotate stocks.	Intent : To verify that stocks are rotated in the magazines. Personnel : Shift supervisor, charging crew etc. Method : Check magazine records and stocks interview persons involved with delivery and handling.
11.5	Stock delivered is promptly stored in the magazine.	Intent : To verify that explosive deliveries are promptly placed into the magazines and secured. Personnel : Manager, shift supervisor etc. Method : Interview personnel involved in explosive deliveries, if possible inspect the procedure upon a delivery.
11.6	Stock levels are within the statutory levels.	Intent : To verify that the magazine stock levels are within those set by the MSIA regulation 8.5 s which allow for 500 Kg above the amount expected to be used in 1 week. Personnel : U/G Manager, Storeman, Shift supervisors etc. Method : Perform a stock check and cross reference it with the level of mining activity. Interview personnel.
11.7	The keys are kept by the appointed person.	Intent : To verify that the keys to the magazine facilities are kept secure. Personnel : Manager, shift supervisor, charge crew etc. Method : Interview mine personnel.

12. HOUSEKEEPING - U/G MAIN MAGAZINES

Point	Standard	Guideline
-------	----------	-----------

12.1	The magazine is clean and dry.	Intent : To verify compliance with good housekeeping practice and MSIA regulation 8.6. Personnel : N/A Method : Inspect the magazine.
12.2	Explosive stacks are stable and 2m or less in height above the floor or storage rack level.	Intent : To verify compliance with good housekeeping practice . Personnel : N/A Method : Inspect the magazine.
12.3	No additional unauthorised materials are kept in the magazine.	Intent : To verify compliance with good housekeeping practice. Personnel : N/A Method : Inspect the magazine.
12.4	No explosives are kept loose in the magazine.	Intent : To verify compliance with good housekeeping practice. Personnel : N/A Method : Inspect the magazine.
12.5	No spilt material is left in the magazine.	Intent : To verify compliance with good housekeeping practice . Personnel : N/A Method : Inspect the magazine.
12.6	Detonators are kept separately from explosives.	Intent : To verify compliance with good housekeeping practice and MSIA regulation 8.16. Personnel : N/A Method : Inspect the magazine.
12.7	The magazine vicinity is kept clean and free of obstructions.	Intent : To verify compliance with good housekeeping practice. Personnel : N/A Method : Inspect the magazine and its environs.

13. PROCEDURES - U/G MAIN MAGAZINES

Point	Standard	Guideline
13.1	There is a procedure in place to inspect and maintain the magazine installation.	Intent : To verify that the magazine installation is treated similarly to other parts of the mine infrastructure and receives due consideration by the U/G management. This would include a routine inspection of the magazine backs etc. Personnel : U/G Manager Method : Obtain copy of procedures for inspection etc.
13.2	There is a procedure in place to deal with a fire in or near the magazine.	Intent : To verify that a fire threat to the magazine is handled by a suitable emergency procedure. Personnel : U/G Manager, Shift Supervisor, charge crew etc. Method : Obtain copies of procedures and interview personnel who access the magazine area.
13.3	There is a procedure for the disposal of old or damaged explosives.	Intent : To verify that there is a procedure in place to deal with old or damaged explosives. Personnel : U/G Manager, Shift Supervisor, charge crew and production personnel. Method : Obtain copies of procedures and interview relevant personnel.
13.4	Magazine is kept locked except when stock movement or other authorised activities are occurring.	Intent : To verify that the magazines are kept locked and secure. Personnel : Personnel who use explosives. Method : Inspect magazine and check that it is locked interview personnel.