Steel Authority of India Limited
Raw Materials Division
Bolani Ores Mines

Inter Office Correspondence

No. GM(Maint)/RMD/BOM/B- 4836 **Date : 31.3.2008**

From : GM(Maint), RMD, BOM.

To :
1. GM, BOM.
2. GM, MIOM.
3. GM, GUA.
4. GM, BIM.
5. GM, KIOM.
6. GM, KIM.
7. GM (MM & S), RMD, Kolkata.
8. GM(F&A), RMD, Kolkata.
9. GM (Proj.), RMD, Kolkata.
10. DGM(PPC),RMD, Kolkata.

Sub : Norms for Availability, Utilization & Economic Life of HEMM.

Norms for Availability, Utilization & Economic Life of HEMM, as recommended by the Committee, have been approved and will be effective from 1.4.2008.

The above will be reviewed every year by GM(Maint.), Raw Materials Division.

21.03.2008

(A.P.Sinha)
GM (Maint),
RMD.
Bolani Ores Mines.

C.c.to :-

1. The Executive Director I/c., RMD, Kolkata - for kind information.
2. The Executive Director, RMD, Kolkata - do -

31.03.2008
General Manager (Maint)
Bolani Ores Mines

OFFICE OF THE GM (M) MOM & GSM, SAIL/RMD, GUA — No. 710, Date 04/4/08

G.M.(Maint) — for implementation w.e.f. 1.4.08

Copy to (i) AGM (Proj) (ii) AGM (Fin) (iii) Manager (Mech) EME, Mgr (Fin), PPC

File RMD/CME/040

1.11 If the equipments are utilized on holidays or maintenance shift then the clock hour for that shift will be added to overall scheduled hours i.e. the particular shift would be added with other normal shift. There would not be any concept of available factor & extra available hours and any working on Sunday or maintenance shift will be considered as normal scheduled shift.

1.12 The mines must consider all the equipment in the fleet for calculation of Availability% & Utilization%.

1.13 Illustration for calculating Availability% and Utilization%.

Given below is an illustration for calculating availability & utilization

Scheduled hrs	Extra scheduled hrs	Total scheduled hrs	Breakdown hrs	Actual available hours	Idle hours	Actual utilized hours	Availability %	Utilization%
1	2	3=2+1	4	5=3-4	6	7=5-6	8=5/3*100	9=7/5*100
400	16	416	100	316	50	266	75.96	84.18

Scheduled hours = No of working shifts per day X No of working days X 8 hrs.

Assumptions.

- Suppose mines operate in one shift each on two Sundays during a month then the scheduled hours for Sundays will be added to the overall scheduled.
- The breakdown hours occurring in that extra shift will be added with that of breakdown hours for other scheduled shifts.
- Similarly idle hours occurring in that extra shift will be added to that of idle hours for other scheduled shifts.
- In case of mines operate only half of the shift especially in maintenance where production is normally operated for 4 hours then mines should add only 4 hours to that of extra scheduled hours.

31.03.2008
General Manager (Maint.)
SAIL, RMD, Bolani Ores Mines
Bolani

2.2 Norm for two shift operation

Since RMD is heading towards three shift operation in all the mines, however, two shift operation may continue for sometime till 3-shift operation is fully implemented. In the norm for 2-shift operation, availability may be a little above the norm for three shift operation. As such the norm for two shift operation is recommended as below:

Sl.No.	Equipment	Existing norms		Suggested norms	
		% Availability	% Utilization	% Availability	% Utilization
1	50Te dumpers	70	75	70	80
2	85Te dumpers			85	80
3	35Te dumpers	60	75	70	75
4	Elect Excavators up to 4.6 cumeter	70	60	70	65
5	Electric hydraulic excavator above 4.6 cumeter	70	65	75	75
6	Diesel Excavators up to 4.6 cumeter	60	60	70	75
7	Diesel Excavator above 4.6 cumeter	65	65	85	80
8	Diesel driven blast hole drill up to 150mm	60	70	70	70
9	Electric diesel driven blast hole drills up to 150mm	65	70	70	75
10	Dozers up to 410 HP	60	70	75	70

31.03.2008
General Manager (Mgmt)
SAIL, RMD, Bolani Ores Mines
Bolani

NORMS OF AVAILBILITY, UTILIZATION, ECONOMIC LIFE OF HEMMS,

A committee had been constituted for fixing norms for Availability / utilization of HEMMs in RMD mines vide office order No RMD/K/GM(Maint))/4/169 dt 15.11.2006. The report submitted by the committee has been approved and the new norms will be applicable from 1st April, 2008.

REPORT OF THE COMMITTE

1.Definition and methodology to be adopted for arriving at the availability, utilization and net utilization norms for heavy earth moving equipments are given below:

1.1 Number of equipment: Total population of equipment of any category, will form the basis for calculation of norms for the category.

1.2 Scheduled hours: No of working days X 24 hrs for three shift operation and No of working days X 16 hours for two shift operation.

1.3 The term hours will mean clock hours and not the service hours recorded by the hour meters of the equipment.

1.4 Breakdown hours: Time for which the machine is down and not available for operation and also time taken to attend all repairs, maintenance and capital repairs during the scheduled hours would be considered as breakdown hours.

1.5 Available hours = Scheduled hours – Breakdown hours.

1.6 Idle hours: Time for which the machine is available for operation and not utilized and idle hours will mean hours lost on account of power failure, stoppage of work due to blasting operations, weather conditions, tiffin time or industrial relations, shortage of operators, POL shortage etc.

1.7 Utilized hours: Time for which equipment is operated & available hours minus idle hours for which the equipment is not put to use (for any reason whatsoever) will be called utilized hours. Utilized hours = (Available hours – Idle hours).

1.8 Availability % = [Available hours / Scheduled Hours] X 100.

1.9 Utilized % = [Utilized hours/ Available hours] X 100.

1.10 Net utilization % = Availability% X utilization% or

= [Utilized hours/ Scheduled Hrs] X 100.

03.2008

2.1 Based on above the norms for 3 shift operation are as under:

Sl.No.	Equipment	Existing norms		Suggested norms	
		% Availability	% Utilization	% Availability	% Utilization
1	50Te dumpers	65	75	70	80
2	85/100Te dumpers			85	80
3	35Te dumpers	60	75	65	75
4	Elect Excavators up to 4.6 cumeter	70	60	70	70
5	Electric hydraulic excavator above 4.6 cumeter	70	65	70	70
6	Diesel hyd Excavators up to 4.6 cumeter	60	60	70	75
7	Diesel Excavator above 4.6 cumeter/7.5 to 8 cbm	65	65	85	80
8	Diesel driven blast hole drill up to 150mm	60	70	70	70
9	Electric diesel driven blast hole drills up to 150mm	65	70	70	75
10	Dozers up to 410 HP	60	70	70	70

31.03.2008
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SAIL, RMD, Bolani Ores Mines
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3. **Norms for economic life of Mining equipments.**

SN	Equipment	Capacity	Norms recommended by the committee (which ever is earlier)		Existing norms	
			Hours	Years	Hours	Years
1	Rear dumper	35 Te	20000	8	12000	5
2	Rear dumper	50Te	32000 with AMC	10	-	-
3	Rear dumper (Existing)	50Te	25000	10	15000	7
4	Electrical Excavator	Up to 4.6 cum	25000	15	25000	15
5	Diesel excavator	3Cumetr & above	32000 with AMC	10	~~15000~~	~~8~~
6	Diesel excavator (Existing)	3Cumetr & above	25000	10	15000	8
7	Blast hole drills	Up to 150mm	20000	10	12000	6
8	Dozers	Above 250HP	20000	10	16000	6
9	Front end loaders		15000	10	10000	7
10	Motor graders			10	10000	7

31.03.2008

General Manager (Maint.)
OMD, Bharat Gold Mines