

2200-17

No.RW-20015/3/91-RMP

Dated, the 24th June, 1994

To

The Secretaries of State PWDs and Union Territories (dealing with National Highways), Director General (Works), Central Public Works Department; Secretary, Border Road Development Board

Subject: Fixation of norms for working out hire charges of important road construction equipment

It is observed that norms for working out hire charges of various road construction equipment vary from one State to another. In order to have a uniform pattern for working out the hire charges of road construction equipment, the issue was discussed in the meeting of Standing Committee of senior Mechanical Engineers in the highway sector who had entrusted this work to a sub-committee. The sub-committee submitted a report to the main committee after examining the various details received from different States on this subject. The report of the sub-committee was again discussed in the 7th meeting of the Standing Committee held at Guwahati from 12-14 May, 93. The committee recommended that the norms for working out hire charges of the machines should be the same as adopted by the Ministry (Appendix IV\* enclosed with the minutes of the meeting sent to you vide Ministry's letter of even number dated 27.7.93) with slight modifications as indicated below:

1. The operational (repair) charges should be 150% of the cost to be depreciated spread over the economic life of the equipment (which do not possess tyres/crawler).
2. The operational (repair) charges should be 175% of the cost to be depreciated spread over the economic life of the equipment (which possess tyres/crawlers).
3. Ownership and operational charges of all the equipment should be revised periodically say after 3 years.

In view of the above, it is suggested that all State Governments may adopt the same norms as recommended by the committee.

---

\* Copy of Appendix-IV issued with letter of even number dated 27.7.93 is enclosed.

Enclosure to Circular No.RW/20015/3/91 RMP dated, 24th June, 1994

**SAMPLE CALCULATION OF HIRE CHARGES/USAGE RATE OF MACHINERY****1. For Equipments Used Departmentally****I. Ownership Charges**

(A)	Total investment at site of work (this includes A/T cost, sales tax, excise, custom and other duties, transport expenses consisting of freight (by ocean & rail), insurance loading/unloading charges and erection and commissioning on receipt.		Rs.
(B)	Deduct salvage value @ 15% of (A)		Rs.
(C)	Total investment to be depreciated = (A) - (B)		Rs.
(D)	Economic life of the machine in hours	=	hrs.
(E)	Depreciation per hour	= $\frac{(C)}{(D)}$	Rs.
(F)	Storage charges per hour (1 per cent of 'C' spread over the economic life)	= $0.01 \times \frac{(C)}{(D)}$	Rs.
	Total Ownership charges	= (E) + (F) = Rs.	I

**II. Operational Charges**

(G)	Repair charges per hour including maintenance and replacement of tyres (150 per cent of 'C' spread over economic life)	= $1.5 \times \frac{(C)}{(D)}$	
		=	Rs. II

**III. Overhead Charges**

@ 5 per cent of ownership and operational charges	=	$\frac{5}{100}$	(I+II)
Ownership charges per hour	=	Rs.	III
Operational charges per hour	=	Rs.	
Overhead charges per hour	=	Rs.	

**IV. Running Charges****Operating staff/labour & wages**

	Designation	No.	Wages/month
i)	Operator		
ii)	Helper		
iii)	Cleaners		
iv)	Misc. expenses		
v)	Overtime, etc.		
(H)	Wages per hr [See note (d)]	=	$\frac{\text{Total wages per month}}{1500}$
		=	Rs.

(I) Servicing Charges

	Designation	No.	Expenditure
i)	Mechanic		
ii)	Cleaner		
iii)	POL	Total	Rs.

(J) Servicing Charges

	Fuel Lubricants etc. consumption/hr	Rate/lit	Cost/hr
i)	Fuel		
ii)	Lubricant		
iii)	Grease		
iv)	Hyd. oil		
v)	Gear oil, cotton waste, etc.		
vi)	Furnace oil etc. (in case of hot mix plants, etc.)	Total	

(K) Cost of lub. oil, fuel etc., hr.

(L) Total running charges per hr. = H+J+K =

(V) Overhead charges @ 5 per cent of the total charges per hour =  $\frac{5}{100} \times L$

Summing up:

Ownership charges	=	I	=
Operational charges	=	II	=
Overhead of I and II	=	III	=
Running charges [as in (5)]	=	IV	=
Overhead charges on IV	=	V	=

$$\text{Hire charges per hour} = \text{I} + \text{II} + \text{III} + \text{IV} + \text{V}$$

Note: While the hire charges should be calculated on the basis of actual expenditure incurred on each machine, on various items indicated above, as soon as any machine is received, provisional hire charges can be fixed assuming the following :

(a) For Imported Equipments only

- i) c.i.f. cost = (F.A.S. or F.O.B. cost) + 10% cost of machine for ocean freight.
- ii) Custom duty and clearance charges = 50 per cent of c.i.f. value, 35 per cent custom duty + 10 per cent regulatory duty + 3 per cent clearance charges

(b) i) Diesel consumption =  $\frac{\text{B.H.P.} \times \text{Load Factor} \times (60 \text{ per cent}) \times \text{LBs. of fuel per H.P. hour} \times (0.4)}{7.4}$

ii) Lubricating oil =  $\frac{\text{H.P.} \times 0.6 \times 0.006}{7.4} = \frac{C}{1}$

Where  $\frac{C}{1}$  = Crank case capacity 0.06 x H.P. in gallons  
time for changing oil = 100 hours.

- (c) The other lubricants, grease, Hyd. oil, gear oil, cotton waste, etc. may be assumed to cost twice the cost of lubricant oil in case of heavy machinery. In case of rest, it is to cost same as lubricant oil.
- (d) Wages of operating staff.

Although the staff will be paid for the whole year, for calculating hourly wage rates of the staff, total wages of one year should be divided by actual working hours per year.

In the above formula uniform depreciation has been assumed for the machines fitted with tyres. As the tyres are costly and wear out fast, separate depreciation can be worked out for the tyres and machines.

(2) **For Equipment given to Contractors & Outside Agencies :**

When the machines are issued to contractors, interest and insurance charges @ 10 per cent of average investment per year will be calculated as under and added.

$$= \frac{A}{1500} \times \frac{60^*}{100} \times \frac{10}{100} = \text{Rs.} \quad \text{*on 5 years life.}$$

(M) **Interest and Insurance Charges per Hour :**

Therefore the total charges in that case would be as follows :

Ownership charges (E+F+H)	=	I
Operational charges	=	II
Running charges	=	IV
Overhead charges @ 5 per cent of the	=	$\frac{5}{100} (I+II+IV)$
total charges per hour	=	say V
Hence hire charges per hour	=	I+II+IV+V