

No. IDA/W-25 (10)/63

Dated the 8th October, 1964

To

The Additional Chief Engineer, World Bank Projects Wing, Public Works Department, Bihar, The Chief Construction Engineer, National Highway Project, Orissa, The Chief Engineer, Buildings & Communications Department, Maharashtra, The Chief Engineer, Special Road Development Directorate, W. Bengal.

Subject : Procurement of machinery for works covered by the I.D.A. credit—3—IN—Rate of hire charges regarding

As you are aware, the Government of India have been stipulating the following condition for the use of heavy machinery in the sanctions to the estimates for road & bridge works covered by the I.D.A. Credit—3—IN.

"As soon as the utilisation of the heavy road making equipment ordered from abroad commences, a revised estimate taking into account the economies resulting from the utilisation of this equipment may be prepared and sent to this Department".

The question of fixation of rates of hire charges to be levied on the items of machinery provided to you for use on IDA works is under consideration of the Government of India. A copy of the formula proposed to be adopted for determining the hire charges is forwarded herewith. It will be seen from the enclosed copy of the formula that the projects on which this machinery has been employed will bear the relative proportion of the overall cost to the extent of the utilisation of the equipment on each work. It is, therefore, requested that pending the final decision of the Government of India, this formula may be adopted for determining the hire charges and tentative adjustments made wherever necessary. It is also requested that all possible care may kindly be taken to ensure that no machinery is kept idle.

The final formula for the fixation of hire charges presently under consideration by the Government of India will be communicated to you as soon as it is finalised.

NOTE ON DETERMINATION OF "USAGE" CHARGES OF EQUIPMENT USED ON INTERNATIONAL DEVELOPMENT ASSOCIATION WORKS

For the various road construction works included in the I.D.A. Credit Programme, use is being made of road making machinery. The concerned road projects will bear the relative proportion of overall cost to the extent of the utilisation of equipment on each work.

2. The total usage charges to be charged for an equipment will cover the following elements :
 - I. Ownership Charges : This will include (1) Depreciation and (2) storage charges.
 - II. Operational Charges : This will include repairs maintenance and replacement of tyres.
 - III. Running Charges : This will cover expenses incurred on P.O.L. consumed, servicing of equipment and personnel employed for operating equipment.
3. Item I constitutes "Fixed Charges", while item II provides for a reserve for covering repairs and replacements of tyres. Items I and II will thus constitute the "Usage Rate" while item III covering "Work charges" can be charged directly to the work on which machinery is actually used.
4. The correct assessment of the life of an equipment has to be correlated with the working conditions in which it is employed. The useful life of the equipment in hour is given below :

Equipment	Job conditions		
	Excellent	Average	Severe
Dozers	12,000	10,000	8,000
Motor Graders	12,000	10,000	8,000
Scrapers	12,000	10,000	8,000
Excavators-Cranes, Clamshells, Draglines :			
3/8-3/4 cu. yd.	12,000	10,000	8,000
1-1½ cu. yd.	18,000	12,000	10,000
Soil Stabilisers	12,000	10,000	8,000
Core Drilling Machines	12,000	10,000	8,000
Smaller Pneumatic Tractors	16,000	12,000	10,000
Bituminous Hot Mix Plant & Finisher	12,000	10,000	8,000

The life of other equipment may be taken as under :

Jeeps	75,000 miles
Diesel Trucks	1,00,000 miles
Sheeps or Rollers	8 years or 16,000 hours
Air Compressors	10,000 hrs.
Chip Spreaders	15,000 hrs.
Bitumen Pressure Distributors	15,000 hrs.
Bitumen Boilers	15,000 hrs.
Rear Dumpers	10,000 hrs.
Mechanical Brooms	12,000 hrs.
Road Rollers	15,000 hrs.
Deflectometres	15 years or 30,000 hrs.
Motor Survey Launches	15,000 hrs.
Water Tankers	10 years or 20,000 hrs.
Barges	20 years or 40,000 hrs.
Pontoon	20 years or 40,000 hrs.
Water Pump	6 years or 12,000 hrs.
Tube well	25 years or 50,000 hrs.
Compression Testing Machine	20 years or 40,000 hrs.
Stabilometer	20 years or 40,000 hrs.
Tri Axial Apparatus	5 yrs or 10,000 hrs.
Sampling Apparatus	4 hrs. or 8,000 hrs.
Pick up Van	75,000 miles

5. To determine the cost of owning and operating the equipment, the following cost sheet may be used taking the life of equipment in hours mentioned above :

		Machine Description _____			
I. Ownership charges :					
(i) Depreciations :					
(a)	Total investment at site of work	Rs	.....	
(b)	Deduct salvage value 20% of A.	Rs	.....	
(c)	Total investment to be depreciated (A-B)	Rs	.....	
(d)	Economic life in hours	Rs	.....	
(e)	Depreciation per hour (C-D)	Rs	.....	
		D			
(ii) Storage :					
(f)	Storage charges per hour (1% of C spread over economic life) (O. OIC)	Rs	.....	
		D			
II. Operational charges :					
(g)	Repair charges per hour including maintenance and replacement of tyres (15% of 'C' spread over economic life) (LS-C)				
		D			
III. Running charges :					
(i) Fuel, lubrication etc.					
		Consumption	Rate/Gal. lb.	Cost/Hr.	
(a)	Fuel	Gals/Hr.	Rs	.....	Rs
(b)	Lub	Gals/Hr.	Rs	.....	Rs
(c)	Spec. Hydraulic Lub	Gals/Hr.	Rs	.....	Rs
(d)	Grease	Lbs/Hr.	Rs	.....	Rs
(h)	Cost of Fuel, Lub & Misc/Hr. Rs.	.....		
(ii) Labour and Wages :					
		Numbers	Wages	Wages per Hr.	
(a)	Operators	.....	Rs	.....	Rs
(b)	Bilers/Cleaners	.....	Rs	.....	Rs
(c)	Helpers	.....	Rs	.....	Rs

(d) Total Wages	.....	Rs	Rs
(e) Misc. Expenses	.....	Rs	Rs
(f) Overtime	.....	Rs	Rs
(j) Cost of labour per hour	Rs		
(k) Overheads at 5% of the total charges per hour	Rs		
(E+F+G+H+J)			

6. Log Book or the Machinery Register should be maintained for each machine to record hours worked, down time and brief reasons for same, consumption of fuel and lubricants, spares consumed and output. A sample of Log Book to be maintained in parts is given as Appendix I.

N.B : In respect of Jeeps, Diesel Truck and pickup Vans, hire charges may be calculated on mileage basis as the useful life of this equipment is determined in miles. While calculating the wages of operators etc., the average distance travelled by the vehicles per hour may be taken as 25 miles and rate calculated accordingly.