2100.1.

D.O. LETTER NO. RM-3 (34)/70 DATED THE 18TH MARCH, 1972, FROM THE DIRECTOR GENERAL (ROAD DEVELOPMENT) & ADDL. SECY. TO THE GOVT. OF INDIA ADDRESSED TO THE SECRETARIES TO THE GOVTS. OF ASSAM, BIHAR, W. BENGAL, ORISSA, U.P., RAJASTHAN, GUJARAT, MAHARASTRA AND PUNJAB.

Subject : Utilisation programme for Central Government equipment

Please refer to Ministry's letter No. RM-10 (8)/68 dated the 10th August, 1970 regarding review of utilisation of Central Government equipment, their upkeep etc.

2. The matter of full utilisation of all Central equipment has been stressed by the officers of this Ministry during the various inspection tours, in the bimonthly meeting held, and in various correspondences in this connection.

3. The reports received from our regional Superintending Engineer (Mech)'s indicate that most of the Central equipment though in working order, as also those which can be put in order without much difficulty, are lying unutilised. I am, therefore, to request you to kindly intimate the present condition of Central Government Machinery in your State as in the Proforma (I) enclosed.

4. A number of new works on National Highways and other centrally sponsored road projects for exectuion during the Fourth Plan period have been sanctioned by the Ministry. With the completion or nearing completion of L.R.P., Strategic Road Programme etc., it is necessary that all the Central machinery is now used on the N.H. development works and only when these are surplus of the requirements of these works that for a limited period these are used on other Centrally financed road works. For achieving optimum utilisation of available machinery a fresh review of utilisation of Central Govt. equipment is very much necessary. I am, therefore, to request you to kindly send an utilisation programme of all central Govt. machinery available in your State particularly the units of (a) earth moving equipment (Scrapers, Dozers, Motor graders, etc. (b) Compaction equipment (Road rollers, sheep-foot rollers, water tankers etc.) (c) Bituminous pavement Equipment (Hot Mix Plant, Paver Finishers, Tippers Tandem Rollers and other ancillary equipment), and (d) Stabilisers (Voegelle or Howard) with connected ancillary equipments for the period ending March, 1973. Please indicate therein the quantum of various items of work required to be executed by these equipments and the expected performance of these equipments against each item of work based on the output norms and expected working hours of machinery earlier spelt out by this Ministry in letter No. RM-15 (3)/70 dated 5.6.70. A specimen form indicating the extent to which the machinery is expected to be used in each item of work, is also enclosed. A list of machinery not likely to be utilised may also be sent to this Ministry so that they can be transferred to other needy states for execution of central works. This information may kindly be furnished in the attached proforma (II). Similar utilisation programmes would be required to be submitted on annual basis for subsequent financial years also in every preceding month of March.

5. A proper mechanical organization set up and repair facilities are a must for better upkeep of machinery. Attention of State Chief Engineers for separate and adequate organization for N.H. Works was drawn in the Minutes of the P.W.D. Secretaries, Chief Engineers' meeting held at New Delhi from 5th to 7th June, 1971, which were circulated vide this Ministry's letter No. PL-2 (2)/71 dated 3.7.71 wherein a sketch of model set up was also enclosed which duly envisaged setting up of a requisite mechanical organization too. I am to request you to kindly intimate the present organizational set-up on mechanical side, workshop facilities available, mobile workshop and field workshop staff available in the state of proper running, operation, maintenance and care of the Central Govt. equipments in the Proforma (III).

6. At present practically no monthly/quarterly performance report of the working of the central equipment in the State is being received in the Ministry. You are requested to send the performance report of the Central Govt. machinery in the proforma (IV) every quarter and ensure their regular submission, in future.

It is requested that the above information may be furnished to this Ministry latest by the end of April, 1972 and copies thereof may also please be supplied to our Superintending Engineer (Mech.) concerned and to our regional offices.

PROFORMA I

PROFORMA SHOWING THE CONDITION OF MACHINERY

Name of State : _____

Sl. No.	Name of Machinery	Quantity available in the State					No. in working order		No. under breakdown which can be repaired with the indigenous parts & those in stock	No. which cannot be made ready until & unless the parts are imported with brief details	No. which are beyond economical repairs	Remarks
		IDA	LR.P.	Emergency	S.R.	Total	IN USE	IDLE				
1	2	3	4	5	6	7	8	9	10	11	12	13

PROFORMA II

PROFORMA INDICATING THE UTILISATION PROGRAMME OF MACHINERY

Name of State : _____

Sl. No.	Name of Machinery	Quantitiy available in the State	Quantity required for the period ending March '73 (Detailed calculations to be enclosed)	Surplus	Remarks
1	2	3	4	5	6

PROFORMA III

PROFORMA INDICATING THE PRESENT ORGANIZATIONAL SET-UP AND WORKSHOP FACILITIES AVAILABLE IN THE STATE

Sl. No.	Details of organization						Workshop and their location				Remarks
	S.E. (M)	E.E. (M)	A.E. (M)	Overseers	Foremen	Mechanics	Central	Regional	Mobile	Field	
1	2	3	4	5	6	7	8	9	10	11	12

PROFORMA IV

QUARTERLY REPORT OF PERFORMANCE OF MACHINERY USED ON CENTRAL ROAD WORKS FOR THE QUARTER ENDING

Sl. No.	Name of Machinery	M/C No.	Total No. of Days worked	Total No. of Hrs. Actually worked	Total idle hrs. for want of work	Breakdown hrs. with brief reasons	Total output Achieved (Cu. M) etc. (Sq. M)	Remarks
1	2	3	4	5	6	7	8	9

NAME OF STATE

1. *SCRAPERS*

Quantity of Earth work involved :

(i) Construction of missing links @ 10% by machines

(ii) Approaches to new bridges, overbridges and high embankments upto 50% by machines

(iii) Widening roads to four lanes @ 20% by machines

Total quantity of earth work involved

Assuming average output of a scraper = 30 Cu. yd/hr. or 810 C. ft/hr.

Assuming working hours/year = 1500

Time Period =

	No. of scrapers required	=	
2.	*PUSHERS*		
	@ 1 for 4 Scrapers	=	
3.	*TRACTOR DOZERS (150 H.P.) for spreading etc*		
	@ 1 for 4 scrapers	=	
4.	*TRUCK MOUNTED WATER TANKERS*		
	@ 1 for 4 Scrapers	=	
5.	*ROAD ROLLERS, 8-10 TONS CAP. (For compaction and Metalling)*		
	(a) *Earth-work compaction :*		
	(i) Missing links @ 95%		
	(ii) Improvement of low grade sec. (100%).		
	(iii) Widening and strengthening of single lane section to two lanes (100%)	=	
	(iv) Strengthening existing weak double lane stretches (100%)		
	(v) Widening roads to two lanes (without strengthening) (100%)	=	
	(vi) Providing bye-passes (100%)	=	
	(vii) Approaches to new bridges, overbridges and high embankments (50%)	=	
	(viii) Widening roads to four lanes (80%)	=	
	Total Earthwork	=	
	Assuming out-turn of a Roller	=	15,000 C. ft/day 428 cum/day
	Time period	=	
	Assuming No. of working days/year	=	200
	No. of Rollers required	=	
	(b) *Muram Gravel*		
	Quantity of Gravel	=	
	Assuming out turn of a Roller	=	15,000 C. ft/day 428 cum/day
	Time period	=	
	No. of Rollers required	=	
	(c) *Soling :*		
	(i) Oversize metal	=	
	(ii) Overburnt bricks	=	
	Total	=	
	Assuming out-turn of a Roller	=	1500 C. ft/day 43 cum/day
	No. of Rollers required	=	
	(d) *Metalling :*		
	Quantity of work	=	
	Assuming out-turn of a Roller	=	1200 C. ft/day 34 cum/day
	No. of days/year	=	200
	Time period	=	
	No. of Rollers required	=	
	(d) *Surface Dressing :*		
	First Coat		
	Quantity of work	=	
	Assuming out-turn of a roller/day	=	7000 S. ft. 650 sqm.
	Time period	=	
	No. of Rollers required	=	
	Second Coat		
	Quantity of work	=	
	Assuming out-turn of a roller/day	=	10,000 S. ft.
	Time period	=	
	No. of Rollers required	=	
	(f) *Rolling of ¾" Carpet :*		
	Quantity of ¾" carpet	=	

	Assuming out-turn/day	=	5000 S. ft. day 465 Sq. m.
	Time period	=	
	No. of Rollers required	=	
(g)	*Seal Coat over ¾" Carpet*		
	Quantity of Seal Coat	=	
	Assuming out-turn of a Roller/day	=	10,000 S. ft.
	Time period	=	
	No. of Rollers required	=	
(h)	*Rolling of Bitumen Macadam/Built-in Spray Grout :*		
	Quantity of 2" Bitumen Macadam/Spray Grout	=	
	Assuming out-turn of a roller/day	=	3000 S. ft/day 280 Sq. m.
	Time period	=	
	No. of Rollers required	=	
6.	*SHEEP-FOOT ROLLER (DOUBLE DRUM)*		
	Quantity of Earthwork		
(i)	Missing links @ 5%	=	
(ii)	Approaches to new bridges, overbridges and high embankments upto 50% by machines		
(iii)	Widening to 4 lane @ 20%		
	Total Earthwork	=	
	Assuming out-turn of a Roller	=	3,000 C. ft. hour 85 cum/day
	Time period	=	
	No. of Rollers required	=	
7.	*SINGLE PASS SOIL STABILIZERS (HOWARD)*		
	Quantity of stabilized soil (sub-base)	=	
	Assuming out-turn of a Howard stabilizer	=	4,000 C. ft/day 115 cum/day
	Time period	=	
	Working days per year	=	
	No. of Stabilizers	=	
8.	*MOTOR GRADERS*		
	@ 1 No. each for Four Nos. Soil Stabilizers		
9.	*WATER TANKERS. 1000 GALS. CAP (TRAILER MOUNTED) :*		
	Assuming quantity of water required to be 10% of total quantity	=	
(i)	Earthwork high approaches	=	
(ii)	Quantity of metal consolidation	=	
	Assuming output of a water-Tanker	=	2000 gallons/hour
	Time period	=	
	No. of Tankers required	=	
	Due to availability of local water to an extent of one-third quantity, tankers may be reduced to	=	
	Add 3 Trailer mounted Water Tankers for each Soil Stabilizer	=	
	Total Water Tankers	=	
10.	*TRACTORS*		
	@ 1 per Sheep-Foot Roller	=	
	@ 1 per 3 Nos. Trailer mounted Water Tankers	=	
	Total	=	
11.	*ROAD ROLLERS (4-6 TONS) :*		
(i)	Double brick sub-base 6" thick	=	
	Assuming out-turn of roller	=	1500 C. ft. day
	Time period	=	
	No. of Rollers	=	

12. *HOT MIX PLANTS*

(i)	Quantity of ¾"-1" carpetting	=	
	Assuming 20 C. ft. = 1 Ton	=	
(ii)	Quantity of 2"-3" bitumen Macadam	=	
	Assuming 25 C. ft. = 1 Ton	=	
	Total quantity of Bitumen Macadam and Carpetting	=	
Assuming out-turn of Hot-Mix Plant/hour		=	15 Tons/Hr.
	Time period	=	
Working hours/year		=	1500
No. of Hot Mix Plants		=	

13. *PAVER FINISHERS*

@ 1 No. per 3 Hot Mix Plants =

14. *TIPPERS*

@ 5 Nos. per Hot Mix Plant =

15. *BITUMEN BOILERS*

(a)	@ 5 Nos. per Hot Mix Plant	=	
(b)	Quantity of Seal Coat over ¾" carpet	=	
(c)	Assuming Bitumen required @ 20 lbs/100 S. ft. of Seal Coat	=	
(d)	Quantity of seal coat over 1¼" carpet	=	
Assuming Bitumen required @ 25 lbs/100 S. ft. of Seal Coat		=	
(e)	Quantity of Seal Coat over 2" Bitumen Macadam	=	
Assuming Bitumen required @ 32 lbs/100 S. ft. of Seal Coat		=	
(f)	Quantity of Surface Dressing	=	
Assuming Bitumen required @ 70 lbs/100 S. ft. of surface dressing		=	
(g)	Quantity of Spary Grout	=	
Assuming Bitumen required @ 85 lbs/100 S. ft. of Spray Grout		=	
Total Bitumen required = (b)+(c)+(d)+(c)+(f)		=	
Assuming out-turn of Bitumen Boiler/day		=	500 Gallons
Time period		=	
No. of Bitumen Boilers required		=	

16. *AIR COMPRESSORS (210-250 C.f.m.)*
(For quarrying job)

(i)	Qty. of soling	=	_____ cft.
(ii)	Qty. of metalling	=	_____ cft.
(iii)	Qty. of surface dressing	=	_____ cft.
	Total	=	_____ cft.
Assuming out-turn of a compressor		=	8×10^5 C. ft/year
Time period		=	
Therefore, No. of compressors		=	_____ Nos.

17. *JACK HAMMERS*

@ 2 Nos. per compressor = _____ cft.

18. *STONE CRUSHERS* (16" × 9" opening)

Qty. of metalling	=	_____ cft.
Assuming output of crusher	=	240 cft/hr or 12 tons/hour
Time period	=	
No. of Crushers required	=	_____ Nos.

19. *GRANULATORS*

Total quantity of chips required	=	_____ cft.
Assuming output of Granulator	=	130 cft/hr.
Time period	=	_____
Granulators required	=	_____ Nos.

20. *TRUCKS/TIPPER for carriage of materials from quarry*

(i)	Qty. of material	=	_____ Tons
(ii)	Lead	=	_____ Km

(iii)	**Assuming output per day**	=	_____ tons
(iv)	No. of **Trucks required**	=	_____ Nos.
	Total :	=	_____
* When lead = 1 mile, output per day		=	8 trips
* When lead = 5 miles, output per day		=	6 trips
* When lead = 10 miles, output per day		=	5 trips
* When lead = 20 miles, output per day		=	4 trips

NOTE : The following assumptions may be made.

(i)	No. of working days/year	=	200
(ii)	No. of working hours/year	=	1,500