

MANPOWER AND RESOURCES REQUIREMENT FOR P.WAY WORKS

Annexure - 'A'

S. No.	DESCRIPTION OF P.WAY ACTIVITY	App. output	Minimum MANPOWER to be provided by agency	T&P to be provided by agency	CONSUMABLES	SUPERVISOR
1	O'Hauling of T/O	1 T/O	20 MEN PER TURN-OUT	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer etc.	Grease & Black Oil	1
2	Shallow screening (including if reqd.) of Plain Track	100 TRACK METER	25 MEN PER DAY	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer etc.		1
3	Manual Deep screening (Plain Track)	50 TRACK METER	3 SLEEPER PER PERSON (25 MEN PER DAY)	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer etc.	Wooden Block	1
4	Manual Deep screening for Turn out (including Sleeper renewal if Reqd.)	one T/O may be completed per day	30 MEN PER DAY	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer etc.	Wooden Block	2
5	Destressing of LWR (with TFR)	800~1000 TRACK METER	35 MEN & 1 BLACK SMITH TEAM PER DAY	Hammer, Beater, Distressing-Roller, Crow Bar, Drill Machine, Disc Cutter, Gas Cutter & Tractor-Trolley	Grease & Rail fittings	1
6	Destressing of LWR (without TFR)	800~1000 TRACK METER	25 MEN & 1 BLACK SMITH TEAM PER DAY	Hammer, Beater, Distressing-Roller, Crow Bar, Drill Machine, Disc Cutter & Gas Cutter	Grease	1
7	Casual sleeper renewal	As per Scope	1.50 SLEEPER PER PERSON (Minutes to person)	Rail Tongue, Crow Bar, Beater, Wire claw etc.	Rail fittings	1
8	Through sleeper renewal	As per Scope	2 SLEEPER PER PERSON (30 MEN PER DAY)	Rail Tongue, Crow Bar, Beater, Wire claw etc.	Rail fittings	1
9	Ballast profiling	250~300 mtr	20 person per day	Phowrah, Pan Mortar, Beater, Wire claw etc.		1
10	ERC greasing	As per Scope	10 person per day	Hammer & Wire Brush	Grease	1
11	Lifting and Packing of T/O	As directed by site incharge	25 MEN PER TURN-OUT	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer etc.		1
12	Lifting and Packing of plain track	As directed by site incharge	20 MEN PER DAY	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer etc.		1
13	Casual Rail/glued/SEJ renewal	As directed by site incharge	10 MEN PER DAY	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer etc.		1
14	Through Rail renewal	As directed by site incharge	25 MEN & 1 BLACK SMITH TEAM PER DAY	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer, Gas Cutter Set, Disc Cutter & Drill Machine.		1
15	Jammed plate screw removal	As per Scope	3 MEN PER DAY WITH GAS CUTTER	Gas cutter, Hammer, Crow Bar	LPG & Oxygen Gas	1
16	Jammed ERC removal	As per Scope	3 MEN PER DAY WITH GAS CUTTER	Gas cutter, Hammer, Crow Bar	LPG & Oxygen Gas	1
17	Rail dolley work	As per Scope	8 MEN PER DAY	Rail Dolley & Crow Bar		1

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18	Dip Lorry work	As per Scope	10 MEN PER DAY	Dip Lorry & Crow Bar		1
19	Squaring of sleeper	As per Scope	5 SLEEPER PER PERSON	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer etc.		1
20	Unloading rail pannel	As directed by site incharge	30 men per block and one Black smith	Crow bar, GasCutting, Hammer and rope etc.		1
21	Unloading of Ballast DMT (including spreading as directed)	As directed by site incharge	20 men per day	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer etc.		1
22	Turn out Renewal (only superstructure)	As directed by site incharge	25 MEN & 1 BLACK SMITH TEAM PER DAY	Beater, Crow Bar, Wire Bucket, Pan Mortar, Wire Claw, Hammer, Gas Cutter Set, Disc Cutter & Drill Machine.		1

- NOTE:- 1) Retro reflective jacket and PPE must be provided to labor by agency.
 2) necessary site protection like barricading etc. will be provided by agency as directed by site incharge.
 3) Railway administration will impose Penalty of Basic pay+ DA for each departmental staff and cost of consumables in case sufficient labor/resources mentioned is not provided.
 4) The manpower mentioned is minimum which can be enhanced as per the site requirement.

Annex - B

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Activity wise F.Way Contractor Labour requirement for TRT

Team	No. of Labourers	Activity	Scope	Description
A	15	Base Depot Activity (With 2 Nos. Gantry+ one Hydra for local shifting of sleepers in Depot.	Each day	(I) New PRC unloading from rake & stacking in Depot
				(II) New PRC loading on TRT BRN
				(III) Old PRC unloading from BRN & stacking in Depot, further loading in trucks/wagons for disposal.
B	50	Pre Attention Work Non-Block day	520 m every alternate day	(i) Pairing and painting of rails
				(ii) Dismantling of SEJ
				(iii) Ballast removal from track/ Opening of Ballast
				(iv) Removal of joggle plate
				(v) Removal of wooden blocks.
				(vi) Removal of broken/damage PRC.
				(vii) Fabrication of glued Joint(if required)
				(viii) Removal of Jammed ERCs by heating or any other suitable means and refixing of ERC.
				(vii) Parameter recording
				(viii) Opening up of LC (if required)
	1 2	Block Day	520 m every alternate day	(i) Dismantling of SEJ(if Required)
				(ii) Removal of all ERCs before TRT & Insertion of all ERCs after TRT
				(iii) New Rubber pads loading/ New pad placement on sleeper
				(iv) Attention to new PRC, wherever required, after new PRC dropping from NT2
				(v) OT pick up unit
				(vi) On OT2 platform
				(vii) Sled area for removing broken Prc/ wooden blocks/plates
				(viii) Old rubber pad removal
				(ix) Old material collection from both sides onto material BRN 3+3
				(x) On BRN's to remove battons & attention to disturbed PRC
				(xi) For dropping pandrol & liner from material wagon
				(xii) ERC & liner fitting 100%
				(xiii) Gas cutting of old rails at start and end of block and for removing rail pieces found during working.
				(iv) Removal of OHE & S&T bond before TRT & reattachment of OHE & S&T bonds after TRT

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C	25	Post block attention	260 m every day	(i) Filling of ballast in track & packing, boxing and dressing
				(ii) spacing & squaring in isolated location
				(iii) Parameter recording
				(iv) Oil and Greasing of ERC and liner seat sealing after TRR
D	2	Gas Cutting, handling of release rails (2 gas cutter + 20 helper)	260 track mtr every day	(i) Gas cutter (old panel to be gas cut for loading and clearing the site)
	15			(ii) Leading, loading and stacking of gas cut released rails
	5	Welding Team 1 welder + 4 helper)	Min 2 welds per day	(ii) One AT welding team
E	5	Miscellaneous	Each day	Water Porter, Night Chowkidar, progress, material accountal, shifting of caution board etc.
	120	Minimum required labour at TRT Site (For Ballast DMT, Rail DMT, Destressing, Night working additional labour will be required)		

Note:-

1. Alternate day block of 520m progress has been considered.
2. Team B will be performing activities on both block day as well as non-block days.
3. Rail DMT unloading would require 6/7 days every month (considering monthly TRT progress of 6 Kms). This rail DMT unloading should preferably be planned in advance block section. So as to be done independently of the TRT blocks. Labour required for rail DMT unloading is to be arranged separately, either departmental or through agency. Labour for rail DMT unloading is not included in above calculation of 130 labour.
4. Additional labour may be arranged for ballast DMT.
5. In case of night working, lighting arrangements are to be made. Labour requirement may also be increased suitably for night working.
6. For destressing, additional labour to be arranged separately.
7. Sufficient T&P i.e crow bars, rake ballast (long), rake ballast (short), gas cutters 3+1, gas cylinders, chain, ropes, steel wire, hooks etc to be kept for removal of PRC & other obstructions.

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Activity wise P.Way Contractor Labour requirement for PQRS

Team	No. of Labourers	Activity	Scope	Description
A	20	Base Depot Activity (With 2 Nos. Gantry + one Hydra for local shifting of sleepers in Depot.	Each day	(i) New PRC unloading from rake & stacking in Depot
				(ii) Fabrication of panels, dismantling of old panels, stacking of old released fittings etc.
B	50	Pre Attention Work Non-Block day	520 m every alternate day	(iii) Old PRC unloading from BRN & stacking in Depot, further loading in trucks/wagons for disposal.
				(i) Pairing and painting of rails
B	50	Block Day	520 m every alternate day	(ii) Ballast removal from track/ Opening of Ballast
				(iii) Removal of joggle plate
B	50	Block Day	520 m every alternate day	(iv) Removal of wooden blocks.
				(v) Removal of broken/damage PRC.
B	50	Block Day	520 m every alternate day	(vi) Fabrication of glued Joint(if required)
				(vii) Parameter recording
B	50	Block Day	520 m every alternate day	(viii) Opening up of LC (if required)
				(ix) Leading of released service rails (AT) of previous days work for next block and laying new AT
B	50	Block Day	520 m every alternate day	(i) Dismantling of SEJ (if Required)
				(ii) Gas cutting of rails - 2 teams
B	50	Block Day	520 m every alternate day	(iii) Levelling of ballast bed post old panel removal
				(iv) Placement of new service panels and its aligning for fish plating
B	50	Block Day	520 m every alternate day	(v) Removal of service rails from service panels for rail renewal
				(vi) Dismantling of AT, RR by new rail panels and fish plating
B	50	Block Day	520 m every alternate day	(vii) Minimum amount ballast filling
				(viii) ERC & liner fitting 100%
B	50	Block Day	520 m every alternate day	(ix) Removal of OHE & S&T bond before block
				& reattachment of OHE & S&T bonds after block.

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C	30	Post block attention (This team will also work in block on block day)	260 m every day	(i) Filling of ballast in track & profiling for tamping M/C, & Boxing and dressing
				(ii) spacing & squiring in isolated location
				(iii) Parameter recording
				(iv) Oil and Greasing of ERC and liner seat sealing after TRR
D	5	Welding Team 1 welder + 4 helper)	Min 2 welds per day	(i) One AT welding team
E	5	Miscellaneous	Each day	Water Porter, Night Chowkidar, progress, material accountal, shifting of caution board etc.
	110	Minimum required labour at SQRS site (For Ballast DMT, Rail DMT, Destressing, Night working additional labour will be required)		

Note:-

1. Alternate day block of 520m progress has been considered.
2. Team B will be performing activities on both block day as well as non-block days.
3. Ballast DMT unloading would require 3/4 days every month. This ballast DMT unloading should preferably be done on non-block day. Labour required for ballast DMT unloading is to be arranged separately, either departmental or through agency. Labour for ballast DMT unloading is not included in above calculation of 90 labour.
4. Rail DMT unloading would require 6/7 days every month (considering monthly SQRS progress of 6 Kms). This rail DMT unloading should preferably be planned in advance block section. So as to be done independently of the SQRS blocks. Labour required for rail DMT unloading is to be arranged separately, either departmental or through agency. Labour for rail DMT unloading is not included in above calculation of 90 labour.
5. For destressing, additional labour to be arranged separately.
6. In case of night working, lighting arrangements are to be made. Labour requirement may also be increased suitably for night working.
7. Labour for Tamping Machine assistance have not been considered in above calculation. Wherever this activity is required, separate labour is to be provided.
8. Sufficient T&P i.e crow bars, rake ballast (long), rake ballast (short), gas cutters 3+1, gas cylinders, chain, ropes, steel wire, hooks etc to be kept for removal of PRC & other obstructions.

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Activity wise P.Way Contractor Labour requirement for Single BCM

Team	No. of Labourers	Activity	Scope	Description
A	8	Obstruction Survey and Removal Team	To work daily to remove obstructions in advance.	(i) To identify & remove any obstructions in advance. (Locations like yards, curves, home signals, bridge approaches, cuttings, previous renewal sites etc are likely to have more obstructions).
B	25	Pre Attention Work Before Block	Min 250 m every day	(i) Removal of ballast upto formation, trench digging for insertion of cutter bar (ii) Putting of Shoulder ballast onto crib for maximum screening of ballast (iii) Removal of joggle plate (iv) Removal of wooden blocks. (v) Removal of broken/damage PRC. (vi) Recouperment of missing fittings (vii) Opening up of LC (if required)
		During Block Work	Min 250 m every day	(i) Linking of cutter chain (ii) Ballast distribution post screening (iii) Profiling of ballast (iv) Removal of any boulder, foundation, rail peg, sleepers & any other obstruction found during block (v) Removal of OHE & S&T bond before block & reattachment of OHE & S&T bonds after block. (vi) Tamper and DGS machine assistance
C	30	Post block attention	Min 250 m every day	(i) Filling of ballast in track & profiling (ii) Track Parameter recording (iii) Post attention with Tamper/DGS (iv) Manual deepscreening of shoulder ballast not covered by BCM. (This activity is very crucial and to be just after BCM and before unloading of ballast). (v) Proper muck disposal, cess repair, drainage improvement
D	3	Gas Cutting Team (1 + 2 helper)	As per requirement	(i) One Gas Cutting welding team
E	4	Miscellaneous	Each day	Water Porter, Night Chowkidar, progress, material accountal, shifting of caution board etc
	70	Total required labour (For Ballast DMT, Destressing, Night working additional labour will be required)		

Note:-

- Daily block progress of 250m with one BCM has been considered for 2:30 hr block. If more block duration are available, labour requirement may be suitably increased.
- Ballast DMT unloading would require 3/4 days every month. This ballast DMT unloading should preferably be done on non-block day. Labour required for ballast DMT unloading is to be arranged separately, either departmental or through agency. Labour for ballast DMT unloading is not included in above calculation of 55 labour.
- For destressing, additional labour to be arranged separately.
- In case of night working, lighting arrangements are to be made. Labour requirement may also be increased suitably for night working.
- T&P: Concrete Breaker (02 nos.), Gas Cutter (02 nos.), Oxygen Cylinder (sufficient), Rope (02 nos.), chain, ropes, steel wire, hooks etc to be kept for removal of PRC & other obstructions.
- JCB may be required for some locations. Wherever required, provisions may be kept for this.

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Activity wise F-Way Contractor Labour requirement for Double BCM				
Team	No. of Labourers	Activity	Scope	Description
A	12	Obstruction Survey and Removal Team	To work daily to remove obstructions in advance.	(i) To identify & remove any obstructions in advance. (Locations like yards, curves, home signals, bridge approaches, cuttings, previous renewal sites etc are likely to have more obstructions).
B	35	Pre Attention Work Before Block	Min 250 + 200 m every day	(i) Removal of ballast upto formation, trench digging for insertion of cutter bar (ii) Putting of Shoulder ballast onto crib for maximum screening of ballast (iii) Removal of joggle plate (iv) Removal of wooden blocks. (v) Removal of broken/damage PRC. (vi) Recouperment of missing fittings (vii) Opening up of LC (if required)
		During Block Work	Min 250 + 200 m every day	(i) Linking of cutter chain (ii) Ballast distribution post screening (iii) Profiling of ballast (iv) Removal of any boulder, foundation, rail peg, sleepers & any other obstruction found during block (v) Removal of OHE & S&T bond before block & reattachment of OHE & S&T bonds after block. (vi) Tamper and DGS machine assistance
C	40	Post block attention	Min 250 + 200 m every day	(i) Filling of ballast in track & profiling (ii) Track Parameter recording (iii) Post attention with Tamper/DGS (iv) Manual deepscreening of shoulder ballast not covered by BCM. (This activity is very crucial and to be just after BCM and before unloading of ballast). (iv) Proper muck disposal and Cess repair
D	6	Two nos Gas Cutting Team (2 + 4 helper)	As per requirement	(i) One Gas Cutting welding team with each BCM
E	7	Miscellaneous	Each day	Water Porter, Night Chowkidar, progress, material accountal, shifting of caution board etc.
	100	Total required labour		
		(For Ballast DMT, Destressing, Night working additional labour will be required)		

Note:-

1. Daily block progress of 250m for leading BCM + 200m for following BCM has been considered during block of 2:30 hrs. If more block duration are available, labour requirement may be suitably increased.
2. Ballast DMT unloading would require 3/4 days every month. This ballast DMT unloading should preferably be done on non-block day. Labour required for ballast DMT unloading is to be arranged separately, either departmental or through agency. Labour for ballast DMT unloading is not included in above calculation of 75 labour.
3. For destressing, additional labour to be arranged separately.
4. In case of night working, lighting arrangements are to be made. Labour requirement may also be increased suitably for night working.
5. T&P: Concrete Breaker (02 nos.), Gas Cutter (02 nos.), Oxygen Cylinder (sufficient), Rope (02 nos.), chain, ropes, steel wire, hooks etc to be kept for removal of PRC & other obstructions.
6. JCB may be required for some locations. Wherever required, provisions may be kept for this.

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