


<p><b>सेंट्रल कोल्फील्ड्स लिमिटेड</b>  कोल इंडिया की अनुषांगी), एक मिनी रत्न  कम्पनी(  दरभंगा हाउस, राँची-834029  <b>संविदा प्रबंधन प्रकोष्ठ (सी.एम.सी).</b>  फोन: 0651-2360219, फैक्स: 0651-  2361120  ईमेल: <a href="mailto:gmmc.ccl@coalindia.in">gmmc.ccl@coalindia.in</a>  वेबसाइट: <a href="http://www.centralcoalfields.in">http://www.centralcoalfields.in</a></p>		<p><b>CENTRAL COALFIELDS LIMITED</b>  (A Miniratna Subsidiary Company of  Coal India Limited)  Darbhanga House, Ranchi  834 029,  <b>Contract Management Cell (CMC)</b>  Ph: 0651-2360219, Fax: 0651-2361120  Email: <a href="mailto:gmmc.ccl@coalindia.in">gmmc.ccl@coalindia.in</a>  Website  <a href="http://www.centralcoalfields.in">http://www.centralcoalfields.in</a></p>
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सन्दर्भ संख्या: सीसीएल/जीएम(सीएमसी)/एसओर/2022/ 100

दिनांक: 26.08.2022

To

The General Manager

Argada/Barka-Sayal/Kuju/Hazaribagh/Rajrappa/Dhori

B&K/Kathara/Piparwar/Rajhara/M&S/A&C/NK

**शुद्धि पत्र (Corrigendum)**

**Sub: - Schedule of Rates (SOR) – 2022 for Hiring of HEMM for Removal of OB and Extraction & Transportation of Coal, Loading & Transportation of Coal, Wagon Loading etc.**

Ref: CCL/GM(CMC)/ SOR/2022/384 dated 20.07.2022

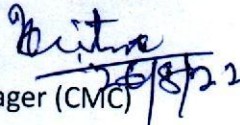
Dear Sir,

In reference to the above-mentioned letter, Schedules of Rates (SOR)- 2022 for Hiring of HEMM for removal of OB and extraction & Transportation of Coal, Loading & Transportation of Coal, Wagon Loading etc. was communicated. Inadvertently, in the above-mentioned SOR, at Table D on Page No. 11 (**F-2-S coal transportation**) of copy of abstract of SOR 2022 regarding arbitrary constant (a, b, and c) has been mentioned but there is no item rate against this table.

Hence table at point no. D at page no – 11 of abstract copy of SoR 2022 may please be ignored or may be treated as deleted.

Thanking You

Yours Faithfully

  
General Manager (CMC)

Copy for Kind information:


1. Director Technical (O), CCL, Ranchi
2. Director Technical (P&P), CCL, Ranchi
3. Director (F), CCL, Ranchi

4. Director (P), CCL, Ranchi
5. TS to CMD, CCL, Ranchi

Copy to:

1. GM(Oprn), CCL, Ranchi
2. GM(F/IC), CCL, Ranchi
3. GM(F/FPC), CCL, Ranchi
4. GM(IED), CCL, Ranchi
5. GM(System), CCL, Ranchi – To upload the corrigendum notice along with CCL SOR 2022 on CCL Website
6. Chief Manager (F/P&P), CCL, Ranchi
7. All SO(M) of CCL
8. All executives of CMC Department



<p>सेंट्रलकोल्फील्ड्सलिमिटेड कोलइंडियाकीअनुषांगी,एकमिनीरत्नकम्पनी दरभंगाहाउस,राँची-834029 संविदाप्रबंधनप्रकोष्ठ(सी.एम.सी). फोन: 0651-2360219, फैक्स: 0651-2361120 ईमेल: <a href="mailto:gmcmlc.ccl@coalindia.in">gmcmlc.ccl@coalindia.in</a> वेबसाइट:<a href="http://www.centralcoalfields.in">http://www.centralcoalfields.in</a></p>		<p><b>CENTRAL COALFIELDS LIMITED</b> (A Miniratna Subsidiary Company of Coal India Limited) Darbhanga House, Ranchi 834 029, <b>Contract Management Cell (CMC)</b> Ph: 0651-2360219, Fax: 0651-2361120 Email: <a href="mailto:gmcmlc.ccl@coalindia.in">gmcmlc.ccl@coalindia.in</a> Website <b>Error! Hyperlink reference not valid.</b></p>
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Ref. No.: CCL/GM(CMC)/SOR/2022/ **384**

Date: 20.07.2022

To

The General Manager

Argada/Barka-Sayal/Kuju/Hazaribagh/Rajrappa/Dhori

B&K/Kathara/Piparwar/Rajhara/M&S/A&C/NK

**Sub: - Schedule of Rates (SOR) – 2022 for Hiring of HEMM for Removal of OB and Extraction & Transportation of Coal, Loading & Transportation of Coal, Wagon Loading etc.**

Dear Sir,

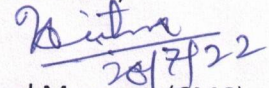
This is to communicate the approval of ECFD, CCL in its 21<sup>st</sup> meeting held on 15.07.2022 vide item No 21.04 of the schedule of Rates (SOR) – 2022 as above.

The ECFD, after detailed deliberation approved the CCL SOR 2022 for Hiring of HEMM for Removal of OB and Extraction & Transportation of Coal, Loading & Transportation of Coal, Wagon Loading etc. Final abstract of SOR has been received from National Productivity Council, Patna on dated 20.07.2022 and the same is being enclosed herewith for further needful.

The CCL SOR 2022 will supersede SOR 2018 & 2021.

You are requested to process all the estimate proposals based on CCL SOR 2022.

Yours faithfully

  
General Manager (CMC)

Encl as above

Copy for kind information

1. Director Technical (O), CCL, Ranchi
2. Director Technical (P&P), CCL, Ranchi
3. Director (F), CCL, Ranchi
4. Director (P), CCL, Ranchi
5. TS to CMD, CCL, Ranchi

Copy to

1. Co. Secy., CCL, Ranchi
2. GM (opr.), CCL, Ranchi
3. GM(F/IC), CCL, Ranchi
4. GM(F/FPC), CCL, Ranchi
5. GM(IED), CCL, Ranchi
6. GM(System), CCL, Ranchi – To upload the CCL SOR 2022 on CCL website
7. Chief Manager (F/P&P), CCL, Ranchi
8. All SO(M) of CCL
9. All executives of CMC department

**ABSTRACT**

**Confidential**

# **SCHEDULE OF RATES (2022)**

**For**

**Hiring of equipments for removal  
of OB, Extraction, Loading and Transportation of coal etc.**



**CONTRACT MANAGEMENT CELL**

**CENTRAL COALFIELDS LTD.**

**RANCHI**

*Prepared by*



National Productivity Council

**National Productivity Council**

**Boring Road Crossing, Patna 800 001**



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url: [www.npcindia.gov.in](http://www.npcindia.gov.in)



Table: 1

**SOR (2022) for Removal of Over burden and transportation (up to 10 km) and Coal extraction and transportation etc.**

Item No.	Description	Lead Slab	Mean Lead (km)	Rate (Rs./cu.m)
1(a)	<b>Hard OB:</b> Hiring of HEMM for removal of OB for hard strata requiring blasting including, excavation of OB strata, loading & transportation of excavated OB, dumping in dump yard, dozing, grading, levelling at dump sites including face & other specified places, preparation & maintenance of haul roads & dewatering of working faces, water sprinkling on haul road as per instruction of the Engineer-in-charge	0 -1 km	0.5	87.46
		1 -2 km	1.5	99.06
		2 -3 km	2.5	112.96
		3 -4 km	3.5	126.41
		4 -5 km	4.5	139.29
		5 -6 km	5.5	151.83
		6 -7 km	6.5	163.98
		7 -8 km	7.5	175.90
		8 -9 km	8.5	187.58
		9 -10 km	9.5	199.07
1(b)	<b>Composite OB:</b> Hiring of HEMM for removal of OB for all kinds of strata requiring blasting (consisting of topsoil, alluvium soil etc.) including excavation of OB, loading & transportation of excavated OB, dumping in dump yard, dozing, grading, levelling at dump sites including face & other specified places, preparation & maintenance of haul roads & dewatering of working faces, water sprinkling on haul road as per instruction of the Engineer-in-charge	0 -1 km	0.5	85.54
		1 -2 km	1.5	96.84
		2 -3 km	2.5	110.40
		3 -4 km	3.5	123.50
		4 -5 km	4.5	136.06
		5 -6 km	5.5	148.28
		6 -7 km	6.5	160.12
		7 -8 km	7.5	171.74
		8 -9 km	8.5	183.12
		9 -10 km	9.5	194.32
1(c)	<b>Soft OB:</b> Hiring of HEMM for soft OB (not requiring blasting) for all kinds of soil/ rocks (consisting of top soil, alluvium soil, blast rock, etc) including excavation of OB, loading & transportation of excavated OB, dumping in dump yard, dozing, grading, levelling at dump sites including face & other specified places, preparation & dewatering of working faces, maintenance of haul roads, water sprinkling on haul road as per instruction of the Engineer-in-charge	0 -1 km	0.5	73.25
		1 -2 km	1.5	84.01
		2 -3 km	2.5	96.91
		3 -4 km	3.5	109.38
		4 -5 km	4.5	121.33
		5 -6 km	5.5	132.97
		6 -7 km	6.5	144.23
		7 -8 km	7.5	155.29
		8 -9 km	8.5	166.13
		9 -10 km	9.5	176.79
1(d)	<b>Re- Handling of OB:</b> Hiring of HEMM for re-handling of OB for all kinds of soil/ rocks (consisting of top soil, alluvium soil, blast rock, etc) including excavation of OB, loading & transportation of excavated OB, dumping in dump yard, dozing, grading, levelling at dump sites including face & other specified places, preparation & dewatering of working faces, maintenance of haul roads, water sprinkling on haul road as per instruction of the Engineer-in-charge	0 -1 km	0.5	66.99
		1 -2 km	1.5	76.81
		2 -3 km	2.5	88.58
		3 -4 km	3.5	99.95
		4 -5 km	4.5	110.85
		5 -6 km	5.5	121.47
		6 -7 km	6.5	131.74
		7 -8 km	7.5	141.83
		8 -9 km	8.5	151.71
		9 -10 km	9.5	161.43

**Extraction, loading and transportation of coal**

Item No.	Description					
2 (a)	Hiring of HEMMs for Coal extraction and Transportation upto 40 km including combo transportation of coal involving part transportation from face to pithead (upto 5km) and part transportation from surface to surface with contractor's tipping trucks from ..... To ..... including weighment at one end, security check & challan generation and receiving, dozing face and coal dump and other specified places, grading and water sprinkling on haul road, Preparation & maintenance of haul road & dewatering of working faces as per direction of Engineer in charge. (Rs./Te)					
	<b>Lead Slab F2S</b>		<b>0-1 km</b>	<b>1-2 km</b>	<b>2-3 km</b>	<b>3-4 km</b>
	<b>Mean Lead F2S (km)</b>		<b>0.5</b>	<b>1.5</b>	<b>2.5</b>	<b>3.5</b>
	<b>Lead Slab (Total)</b>	<b>Mean Lead Combo (km)</b>				
	0-1 km	0.5	46.39			
	1-2 km	1.5	57.67	58.13		
	2-3 km	2.5	67.86	68.32	69.13	
	3-4 km	3.5	77.43	77.89	78.69	79.55
	4-5 km	4.5	86.59	87.05	87.85	88.71
	5-6 km	5.5	95.52	95.98	96.79	97.64
	6-7 km	6.5	104.21	104.67	105.48	106.33
	7-8 km	7.5	112.69	113.15	113.96	114.81
	8-9 km	8.5	121.06	121.52	122.32	123.18
	9-10 km	9.5	129.30	129.76	130.56	131.42
	10-11 km	10.5	137.43	137.89	138.70	139.55
	11-12 km	11.5	145.46	145.92	146.72	147.58
	12-13 km	12.5	153.36	153.82	154.63	155.49
	13-14 km	13.5	161.26	161.72	162.53	163.38
	14-15 km	14.5	169.05	169.51	170.32	171.17
	15-16 km	15.5	176.74	177.20	178.01	178.86
	16-17 km	16.5	184.40	184.86	185.67	186.53
	17-18 km	17.5	192.01	192.47	193.28	194.13
	18-19 km	18.5	199.57	200.02	200.83	201.69
	19-20 km	19.5	207.07	207.53	208.34	209.19
	20-21 km	20.5	214.53	214.99	215.80	216.65
	21-22 km	21.5	221.98	222.44	223.25	224.10
	22-23 km	22.5	229.36	229.82	230.62	231.48
	23-24 km	23.5	236.69	237.15	237.96	238.82
	24-25 km	24.5	244.00	244.46	245.26	246.12
	25-26 km	25.5	251.26	251.72	252.53	253.39
	26-27 km	26.5	258.50	258.96	259.76	260.62
	27-28 km	27.5	265.70	266.16	266.97	267.82
	28-29 km	28.5	272.87	273.33	274.14	275.00

<b>29-30 km</b>	<b>29.5</b>	280.02	280.48	281.28	282.14	283.08
<b>30-31 km</b>	<b>30.5</b>	287.17	287.63	288.43	289.29	290.23
<b>31-32 km</b>	<b>31.5</b>	294.26	294.72	295.52	296.38	297.32
<b>32-33 km</b>	<b>32.5</b>	301.32	301.78	302.59	303.45	304.39
<b>33-34 km</b>	<b>33.5</b>	308.36	308.82	309.63	310.49	311.43
<b>34-35 km</b>	<b>34.5</b>	315.38	315.84	316.65	317.50	318.44
<b>35-36 km</b>	<b>35.5</b>	322.41	322.87	323.67	324.53	325.47
<b>36-37 km</b>	<b>36.5</b>	329.38	329.84	330.65	331.50	332.44
<b>37-38 km</b>	<b>37.5</b>	336.33	336.79	337.60	338.45	339.39
<b>38-39 km</b>	<b>38.5</b>	343.26	343.72	344.53	345.38	346.32
<b>39-40 km</b>	<b>39.5</b>	350.17	350.63	351.44	352.29	353.24

Note: [Deduction shall be applicable @Rs. 0.54 per Te of non- weightment at weighbridge at from the SOR rate for the lead under consideration. On award, the applicable rate of deduction shall be in proportion of awarded rate to the SOR rate for that item i.e. [Rs. 0.54 x (awarded rate/ estimated rate)]

**Extraction of coal with surface miner**

Item No.	Description	Rate (Rs./Te Coal)	Rate (Rs./cu.m intermediate band)
2 (b)	Cost of extraction of coal by surface miner per Te of coal or per cu.m intermediate band	20.84	33.66
	Cost of loading of coal at face (Rs./Te)	10.22	
	<b>Composite rate of extraction of coal and loading at face</b>	<b>31.06</b>	

**Loading of Coal with contractor's payloader into contractor's tipping trucks:**

Item No.	Description	Rate (Rs./Te.)
3 (a)	Loading of Coal by contractor's payloader into contractor's tipping trucks at surface miner site.	10.22
	Loading of Coal by contractor's payloader into contractor's tipping trucks at face/quarry bed stock/stockpile).	8.87
3 (b)	Loading of Coal by contractor's payloader into contractor's tipping trucks at crusher site	6.88

**Loading of Coal with contractor's payloader into railway wagons.**

Item No.	Description	Rate (Rs./Te.)
3 (c)	Loading of coal into railway wagons by contractor's payloader(s) at railway siding including levelling of wagons, lime sprinkling at top of railway wagons, cleaning of track etc. as per instruction of engineer in charge.	9.54

**Loading of Coal with contractor's excavator at face**

Item No.	Description	Rate (Rs./Te.)
3 (d)	Loading of coal into contractors' tippers by contractor's excavator(s) at face as per instruction of engineer in charge.	13.86

**Transportation of coal (Face to siding-F2S combo)**

Item No.	Description					
<b>3 (e)</b>	Transportation upto 40 km including combo transportation of coal involving part transportation from face to pithead (upto 5km) and part transportation from surface to surface with contractor's tipping trucks from ..... To ..... including weighment at one end, security check & challan generation and receiving as per direction of Engineer in charge. (Rs./Te)					
	<b>Lead Slab (F2S)</b>	<b>0-1 km</b>	<b>1-2 km</b>	<b>2-3 km</b>	<b>3-4 km</b>	<b>4-5 km</b>
	<b>Mean Lead F2S (km)</b>	<b>0.5</b>	<b>1.5</b>	<b>2.5</b>	<b>3.5</b>	<b>4.5</b>
	<b>Lead Slab (Total)</b>	<b>Mean Lead (Combo) km</b>				
	<b>0-1 km</b>	<b>0.5</b>	19.02			
	<b>1-2 km</b>	<b>1.5</b>	30.30	30.76		
	<b>2-3 km</b>	<b>2.5</b>	40.49	40.95	41.76	
	<b>3-4 km</b>	<b>3.5</b>	50.06	50.52	51.32	52.18
	<b>4-5 km</b>	<b>4.5</b>	59.22	59.68	60.48	61.34
	<b>5-6 km</b>	<b>5.5</b>	68.15	68.61	69.42	70.27
	<b>6-7 km</b>	<b>6.5</b>	76.84	77.30	78.11	78.96
	<b>7-8 km</b>	<b>7.5</b>	85.32	85.78	86.59	87.44
	<b>8-9 km</b>	<b>8.5</b>	93.69	94.15	94.95	95.81
	<b>9-10 km</b>	<b>9.5</b>	101.93	102.39	103.19	104.05
	<b>10-11 km</b>	<b>10.5</b>	110.06	110.52	111.33	112.18
	<b>11-12 km</b>	<b>11.5</b>	118.09	118.55	119.35	120.21
	<b>12-13 km</b>	<b>12.5</b>	125.99	126.45	127.26	128.12
	<b>13-14 km</b>	<b>13.5</b>	133.89	134.35	135.16	136.01
	<b>14-15 km</b>	<b>14.5</b>	141.68	142.14	142.95	143.80
	<b>15-16 km</b>	<b>15.5</b>	149.37	149.83	150.64	151.49
	<b>16-17 km</b>	<b>16.5</b>	157.03	157.49	158.30	159.16
	<b>17-18 km</b>	<b>17.5</b>	164.64	165.10	165.91	166.76
	<b>18-19 km</b>	<b>18.5</b>	172.20	172.65	173.46	174.32
	<b>19-20 km</b>	<b>19.5</b>	179.70	180.16	180.97	181.82
	<b>20-21 km</b>	<b>20.5</b>	187.16	187.62	188.43	189.28
	<b>21-22 km</b>	<b>21.5</b>	194.61	195.07	195.88	196.73
	<b>22-23 km</b>	<b>22.5</b>	201.99	202.45	203.25	204.11
	<b>23-24 km</b>	<b>23.5</b>	209.32	209.78	210.59	211.45
	<b>24-25 km</b>	<b>24.5</b>	216.63	217.09	217.89	218.75
	<b>25-26 km</b>	<b>25.5</b>	223.89	224.35	225.16	226.02



<b>26-27 km</b>	<b>26.5</b>	231.13	231.59	232.39	233.25	234.19
<b>27-28 km</b>	<b>27.5</b>	238.33	238.79	239.60	240.45	241.39
<b>28-29 km</b>	<b>28.5</b>	245.50	245.96	246.77	247.63	248.57
<b>29-30 km</b>	<b>29.5</b>	252.65	253.11	253.91	254.77	255.71
<b>30-31 km</b>	<b>30.5</b>	259.80	260.26	261.06	261.92	262.86
<b>31-32 km</b>	<b>31.5</b>	266.89	267.35	268.15	269.01	269.95
<b>32-33 km</b>	<b>32.5</b>	273.95	274.41	275.22	276.08	277.02
<b>33-34 km</b>	<b>33.5</b>	280.99	281.45	282.26	283.12	284.06
<b>34-35 km</b>	<b>34.5</b>	288.01	288.47	289.28	290.13	291.07
<b>35-36 km</b>	<b>35.5</b>	295.04	295.50	296.30	297.16	298.10
<b>36-37 km</b>	<b>36.5</b>	302.01	302.47	303.28	304.13	305.07
<b>37-38 km</b>	<b>37.5</b>	308.96	309.42	310.23	311.08	312.02
<b>38-39 km</b>	<b>38.5</b>	315.89	316.35	317.16	318.01	318.95
<b>39-40 km</b>	<b>39.5</b>	322.80	323.26	324.07	324.92	325.87
Rate extrapolation equation for deriving the rate for combo leads ranging 40km-60km			<b>y = 7.43x<sub>1</sub> + 0.78x<sub>2</sub> + 31.95;</b> y = coal transportation rate in Rs./ Te x <sub>1</sub> = Total lead in km, x <sub>2</sub> = Face to pithead lead in km			
<b>Note:</b> During preparation of estimation [Deduction shall be applicable @Rs. 0.54 per Te of non- weighment at weighbridge at from the SOR rate for the lead under consideration. If after award due to non-weightment at one end, the applicable rate of deduction shall be in proportion of awarded rate to the estimated rate for that item i.e. [Rs. 0.54 x (awarded rate/ estimated rate)] And e.g., for transportation with weighment at both ends, Rs. 0.54 per ton shall be added to rate shown in this table for applicable lead before updation of estimation rate.						

**Transportation of coal (surface to surface S2S)**

Item No.	Description	Lead Slab	Mean Lead (km)	Rate (Rs./Te.)
3 (f)	<b>Transportation of coal (surface to surface-S2S):</b> Transportation of coal by contractor's tipping trucks from ..... To ..... including weightment at one end, security check & challan generation and receiving as per direction of Engineer in charge.  <i>Note: During preparation of estimate [Deduction shall be applicable @Rs. 0.54 per Te of non- weightment at weighbridge at from the SOR rate for the lead under consideration. If after award due to non-weightment at one end, the applicable rate of deduction shall be in proportion of awarded rate to the estimated rate for that item i.e. [Rs. 0.54 x (awarded rate/ estimated rate)]</i>	<b>0-1 km</b>	0.5	16.27
		<b>1-2 km</b>	1.5	27.55
		<b>2-3 km</b>	2.5	37.75
		<b>3-4 km</b>	3.5	47.31
		<b>4-5 km</b>	4.5	56.47
		<b>5-6 km</b>	5.5	65.41
		<b>6-7 km</b>	6.5	74.10
		<b>7-8 km</b>	7.5	82.57
		<b>8-9 km</b>	8.5	90.94
		<b>9-10 km</b>	9.5	99.18
		<b>10-11 km</b>	10.5	107.32
		<b>11-12 km</b>	11.5	115.34
		<b>12-13 km</b>	12.5	123.25
		<b>13-14 km</b>	13.5	131.14
		<b>14-15 km</b>	14.5	138.93
		<b>15-16 km</b>	15.5	146.62
		<b>16-17 km</b>	16.5	154.29
		<b>17-18 km</b>	17.5	161.89
		<b>18-19 km</b>	18.5	169.45

<p>E.g. for transportation with weighment at both ends, Rs. 0.54 per ton shall be added to rate shown in this table for applicable lead.</p> <p>Accordingly, the description of item shall read as: "Transportation of coal by suitably covered tipping trucks from _____ to _____. Including weighment at both end, security check &amp; challan generation and receiving at both ends as per direction of Engineer in charge."</p>	<b>19-20 km</b>	19.5	176.95
	<b>20-21 km</b>	20.5	184.41
	<b>21-22 km</b>	21.5	191.86
	<b>22-23 km</b>	22.5	199.24
	<b>23-24 km</b>	23.5	206.58
	<b>24-25 km</b>	24.5	213.88
	<b>25-26 km</b>	25.5	221.15
	<b>26-27 km</b>	26.5	228.38
	<b>27-28 km</b>	27.5	235.58
	<b>28-29 km</b>	28.5	242.76
	<b>29-30 km</b>	29.5	249.90
	<b>30-31 km</b>	30.5	257.05
	<b>31-32 km</b>	31.5	264.14
	<b>32-33 km</b>	32.5	271.21
	<b>33-34 km</b>	33.5	278.25
	<b>34-35 km</b>	34.5	285.26
	<b>35-36 km</b>	35.5	292.29
	<b>36-37 km</b>	36.5	299.26
	<b>37-38 km</b>	37.5	306.21
	<b>38-39 km</b>	38.5	313.14
	<b>39-40 km</b>	39.5	320.05
Rate extrapolation equation for deriving the rate for surface-to-surface leads ranging 40km-60km		$y = 7.43x + 29.76;$ $y$ = Coal transportation rate in Rs./Te $x$ = surface-to-surface lead in km	

Item No.	Description	Rate (Rs./Te.)
3 (g)	Rate of weighment per occasion (Rs./Te)	0.54

Item No.	Additional rates for Contractual transportation of Coal on routes having one railway crossing		
3 (h)	Additional Rates for Transportation of coal by contractor's tipping trucks on routes having one <b>railway crossing</b>	Total closing hours per day	Rate (Rs. /Te)
		>5hrs	1.25
		4-5 hrs	1.02
		3-4 hrs	0.79
		2-3 hrs	0.57
		1-2 hrs	0.34
		<1 hr	0.11
In case rate of coal transportation includes additional rates on account of railway crossing, NIT shall mention details of such hindrances considered and their rates. NIT shall also mention that when any of hindrance(s) included in estimate is withdrawn/reduced after award/during execution, deduction shall be applicable from awarded rate of the transportation item @ (rate of hindrance considered in estimated rates to the extent reduced or withdrawn) x (awarded rate /Estimated rate of the transportation item). The continuance/reduction/withdrawal of hindrance shall be certified by Engineer- in Charge.			

#### Crushing of coal by contractual mobile crusher/ sizer

Item No.	Description	Rate (Rs./Te.)
4 (a)	Cost of Contractual Crushing of ROM Coal into specified size (less than 100 mm) by contractor's Electric Crusher	7.37
4 (b)	Cost of Contractual Crushing of ROM Coal into specified size (less than 100 mm) by contractor's Electric Sizer	11.10

Item No.	Description	Rate (Rs./Te)
4 (c)	Cost of feeding of ROM coal by payloader into mobile crusher at stock (Rs./Te)	7.84
4 (c)	Cost of Crushing of ROM coal by Electric mobile crusher into less than 100 mm sizes (Rs./Te)	7.37
	Composite rate of feeding and crushing	<b>15.21</b>

Item No.	Description	Rate (Rs./Te)
4 (d)	Cost of feeding of ROM coal by payloader into sizer at stock (Rs./Te)	7.84
4 (d)	Cost of Crushing of ROM coal by Electric Sizer into less than 100 mm sizes (Rs./Te)	11.10
	Composite rate of feeding and crushing	<b>18.94</b>

Item No.	Description	Rate (Rs./Te)
4 (e)	Cost of Contractual Crushing of ROM Coal into specified size (less than 100 mm) by contractor's Crusher with DG set	24.19

**Rates for hiring of equipment on hourly/ daily basis**

Rates for hiring of equipment on hourly/ daily basis				
Item No.	Description		Rate	
5 (a)	Cost of hiring of excavator on hourly basis (Rs./hr)		1443.93	+ diesel cost @ 38.28 ltr/hr
5 (b)	Cost of hiring of Dozer on hourly basis (Rs./hr)		1271.73	+ diesel cost @ 25.47 ltr/hr
5 (c)	Cost of hiring of wheel dozer (125 hp) on hourly basis		1380.17	+ diesel cost @ 15.4 ltr/hr
5 (d)	Cost of hiring of Grader on hourly basis (Rs./hr)		1758.39	+ diesel cost @ 19.28 ltr/hr
5 (e)	Cost of hiring of crawler mounted drill for 160mm blast hole on meterage basis (Rs./meter)		132.42	
	Cost of hiring of crawler mounted electric drill for 250 mm blast hole on meterage basis (Rs./meter)		99.87	
5 (f)	Cost of hiring of Fog cannon/ sprinkler on daily basis (Rs./day)		6135.61	+diesel cost @2 km/ltr of truck+diesel cost @5 ltr/hr for dust suppression system
5 (g)	Cost of hiring of mechanical road sweeper on daily basis (Rs./day)		4312.82	+ diesel cost @ 1.43 km/ltr
5 (h)	Cost of hiring of crusher for crushing of OB and extraction of sand (Rs./Te of sand)		36.93	
5 (i)	Cost of crushing of OB and extraction of sand including loading, transportation, and	Lead slab (km)	Mean Lead(km)	Rate (Rs./cu.m)
		0 -1 km	0.5	108.46
		1 -2 km	1.5	117.23
		2 -3 km	2.5	129.62
		3 -4 km	3.5	141.68



allied works of loose dumped OB (upto 10 km)	4 -5 km	4.5	153.24
	5 -6 km	5.5	164.51
	6 -7 km	6.5	175.42
	7 -8 km	7.5	186.12
	8 -9 km	8.5	196.58
	9 -10 km	9.5	206.91

**SOR is based on the following considerations:**

- Coal transportation tippers considered in SOR is with net carrying capacity of **20.0 Tes** per trip for S2S and **20 Tes** per trip for F2S (face to pithead).
- Diesel Base Price:** Rs. 91.66 per Liter as on 21-Jan 2022 in Ranchi.
- High power committee wages** of CIL for contractors' workers engaged in mining activities with effect from 1.10.2021 (High Power Wage Committee report: Notification No: CIL/C-5B/JBCCI/JC/VDA/198 dated: 11/11/2021) and latest notification on contribution towards Coal Mines Pension (Amendment) Scheme 2018 (Ref: CIL/C 5A (PC)/CMPS/2897 dated 23.06.2018).

High Power Wage Committee report: Notification No: CIL/C-5B/JBCCI/JC/VDA/198 dated:  
11/11/2021

<b>Details of Wage element</b>	<b>Unskilled</b>	<b>Supervisory</b>	<b>Skilled</b>	<b>Highly Skilled</b>
Minimum Wages	787	817	847	877
V.D.A.	163	170	176	182
Minimum basic	950	987	1023	1059
PF 12 % & 7% pension benefit and bonus wherever applicable as per bonus act	180.5	187.53	194.37	201.21
<b>Total Rs.</b>	<b>1130.50</b>	<b>1174.53</b>	<b>1217.37</b>	<b>1260.21</b>

(Office of chief labour commissioner (C), Ministry of Labour & Employment, Government of India: Notification No: 1/VDA(3)/ 2021-LS-II dated: 28/10/2021)

For civil works in C-Class city (Applicable only for per day hiring of Fog canon, mechanical sweeper and OB crushing & sand extraction unit)

<b>Details of Wage element</b>	<b>Unskilled</b>	<b>Supervisory/ semi-skilled</b>	<b>Skilled</b>	<b>Highly Skilled</b>
Minimum Wages	350	410	494	579
D.A.	87	102	123	145
Basic minimum wage	<b>437</b>	<b>512</b>	<b>617</b>	<b>724</b>
PF 12 % & 7% pension benefit and bonus wherever applicable as per bonus act	83.03	97.28	117.23	137.56
<b>Total Rs.</b>	<b>520.03</b>	<b>609.28</b>	<b>734.23</b>	<b>861.56</b>

- Base month of wholesale price index (WPI) / Consumer Price Index (CPI):**

December 2021

### 1.1. IMPACT OF DIESEL AND WAGE RATES CHANGES ON SOR:

The SOR worked out in this report is based on the current diesel price and wages rates along with other costs prevailing at the time of preparation of the report. However, these costs are subjected to price variation with time. The change in price will result in increase or decrease in SOR as the case may be. Hence it is necessary to calculate the impact of changes in diesel price and wages on current SOR.

The impact on SOR because of changes in diesel and wage rates may be worked out as below:

Fractional change in HEMM hiring rates is proportional to fractional change in diesel rates:

$$\Delta R / R \propto \Delta D / D \text{ ----- (1)}$$

Fractional change in HEMM hiring rates is proportional to fractional change in wage rates:

$$\Delta R / R_0 \propto \Delta W / W_0 \text{ -----(2)}$$

The new SOR can be updated with formula derived by combining relations 1 & 2:

$$(R/R_0) \times 100 = a (D/D_0) + b (W/W_0) + c \text{ -----(3)}$$

Where

**R** : Revised / Updated Rate applicable for item under consideration

**D** : The new Price of Diesel

**W** : New wage rates

**R<sub>0</sub>** : Rate as per SOR

**D<sub>0</sub>** : Diesel Rate as considered in SOR (**91.66 Rs./litr**)

**W<sub>0</sub>** : Wage Rate as per SOR (**Basic + VDA for unskilled worker** i.e. Rs. 950) Excluding wages for the item of per day hiring of fog canon, mechanical sweeper and OB crushing & sand extraction unit.

For these three cases the minimum wage of unskilled worker for civil works indicated by Office of chief labour commissioner (C), Ministry of Labour & Employment, Government of India, vide, Notification No: 1/VDA(3)/ 2021-LS-II dated: 28/10/2021, i.e. **Rs. 437, shall be applicable**)

**a, b & c** are arbitrary constants.

The values of a, b & c are dependent upon the lead distance and hence they change for different leads. A ready reckoner for these constants have been developed which may be referred from the table below while calculating the impact on price changes.:

**a, b & c** are arbitrary constants for each item or activity for updation of estimate

**A. Excavators: Excavation of Coal and all types of OB**

Position	a	b	C
All types of OB	70.70	4.47	24.82
Coal	67.63	4.94	27.43
Hourly Hiring	0.00	18.25	81.75

**B. Surface Miner: Mining of Coal and intermediate band**

Position	a	b	C
Coal/intermediate band	82.64	1.22	16.14

**C. F-2-S OB (all types of OB) transportation:**

Lead	a	b	C
0-1km	52.13	8.01	39.86
1-2km	53.17	9.05	37.78
2-3km	54.89	8.96	36.15
3-4km	55.33	8.89	35.78
4-5km	56.25	8.83	34.92
5-6km	56.47	8.88	34.65
6-7km	56.52	8.74	34.74
7-8km	56.72	8.71	34.57
8-9km	56.92	8.70	34.38
9-10km	56.94	8.66	34.40

**D. F-2-S coal transportation:**

Lead	a	b	c
0-1km	28.90	17.15	53.96
1-2km	43.85	13.17	42.98
2-3km	48.79	11.95	39.26
3-4km	51.83	11.23	36.94
4-5km	53.55	10.62	35.83



### E. S-2-S/ Combo coal transportation:

Lead Slab	a	b	c	Lead Slab	a	b	C	Lead Slab	a	b	c
0-1km	30.59	23.69	45.72	13-14km	56.98	15.86	27.16	26-27km	58.77	15.17	26.06
1-2km	42.73	20.26	37.01	14-15km	57.20	15.78	27.02	27-28km	58.84	15.14	26.01
2-3km	47.41	18.88	33.71	15-16km	57.41	15.70	26.89	28-29km	58.92	15.11	25.97
3-4km	50.06	18.11	31.83	16-17km	57.59	15.64	26.77	29-30km	58.99	15.08	25.93
4-5km	51.78	17.57	30.65	17-18km	57.76	15.57	26.67	30-31km	59.05	15.05	25.90
5-6km	52.99	17.22	29.79	18-19km	57.91	15.52	26.57	31-32km	59.11	15.02	25.86
6-7km	53.90	16.91	29.19	19-20km	58.05	15.46	26.49	32-33km	59.17	15.00	25.83
7-8km	54.61	16.69	28.70	20-21km	58.17	15.41	26.41	33-34km	59.23	14.97	25.80
8-9km	55.18	16.51	28.31	21-22km	58.29	15.37	26.34	34-35km	59.28	14.95	25.77
9-10km	55.67	16.32	28.01	22-23km	58.40	15.33	26.27	35-36km	59.33	14.93	25.74
10-11km	56.06	16.19	27.75	23-24km	58.50	15.28	26.21	36-37km	59.38	14.91	25.72
11-12km	56.41	16.08	27.51	24-25km	58.60	15.25	26.16	37-38km	59.42	14.89	25.69
12-13km	56.70	15.97	27.32	25-26km	58.68	15.21	26.11	38-39km	59.46	14.87	25.67
								39-40km	59.50	14.85	25.65

### F. Payloaders : Loading of Coal by Payloaders

Position	a	b	c
Surface miner site	59.88	9.78	30.33
Face/ QBS/ stockpile	60.22	9.20	30.58
Crusher site	60.54	9.11	30.35
Wagon Loading	39.28	15.68	45.04
Crusher feeding	62.30	10.64	27.07

### G. Drill:

Position	a	b	c
Diesel drill 160mm (Hard OB / Composite OB/ Coal)	51.56	8.41	40.03
Electric Drill 250mm (Hard OB/ Composite OB/ Coal)	0.00	19.28	80.72

### H. Dozer:

Position	a	B	c
OB (all types) /Coal	51.19	9.76	39.06
hourly hiring	0.00	28.19	71.81
Wheel Dozer hourly	0.00	26.52	73.48

### I. Grader:

Position	a	B	c
OB (all types) /Coal	53.27	8.40	38.33
Hourly Hiring	0.00	16.35	83.65

**J. Fog Canon/ Water Sprinkler:**

Position	a	B	c
OB (all types) /Coal	59.14	12.89	27.97
Hourly Hiring	0.00	22.50	77.50

**K. Mechanical Sweeper:**

Position	a	B	c
Per day hiring	0.00	32.02	67.98

**L. Sand Extraction:**

Position	a	B	c
Hard OB crushing	0.00	14.16	85.84

**M. Crusher:**

Equipment	a	b	c
Electric Crusher	0.00	16.85	83.15
Diesel Crusher	69.52	5.14	25.34

**N. Sizer:**

Position	a	b	c
Electric Sizer	0.00	5.88	94.12

**Note:**

1. For combo coal transportation, the values of a, b & c may be referred from the same table as of S-2-S coal transportation.
2. For updating the coal transportation rates including the weighment at both ends or without weighment, the rate of weighment (Rs. 0.54/Te) must be added or subtracted with the rate of transportation including weighment at only one end, before updating, while using the above updation formula.
3. For updating the coal transportation rates on routes having one railway crossing, the additional rate must be added to the coal transportation rates, before updating, while using the above updation formula.
4. NIT shall also mention that when any of hindrance(s) included in estimate is withdrawn/reduced after award/during execution, deduction shall be applicable from awarded rate of the transportation item @ (rate of hindrance considered in estimated rates to the extent reduced or withdrawn) x (awarded rate /Estimated rate of the transportation item). The continuance/reduction/withdrawal of hindrance shall be certified by Engineer- in Charge.

## 1.2. Extrapolation equation for SOR with respect to lead:

### 1.2.1. Coal transportation (Face to surface combo Transportation):

$$y = 7.43x_1 + 0.78x_2 + 31.95;$$

In the above equations, y is the desired rate for the leads above 40 kms but not more than 60 kms (y = rate in Rs./Te,  $x_1$  = total lead in kms,  $x_2$  = face to pithead lead in kms)

### 1.2.2. Coal transportation (Surface to Surface):

$$y = 6.32x + 26.58;$$

In the above equations, y is the desired rate in Rs./Te at a given lead x in kms above 40 kms but not more than 60 kms.

## 1.3. Extrapolation/Interpolation equation for awarded rate with respect to SOR :

SOR is used for preparation of estimates of rates for specific jobs at specified lead based on which bids are invited. In most of the cases, the awarded rates are either lower or higher than the estimated rates. In case there is a variation in lead during the contract period, the awarded rates are required to be revised for the new lead. Since the awarded rate and estimated rates (SOR) are different, it is required to determine new rates with respect to awarded rate. For such situations, the formula for arriving at new rate of award will be as follows:

### 1.3.1. Formula for extrapolation/interpolation of awarded rate with change in SOR:

$$R2 = R1 + [SOR \text{ rate at } D2 - SOR \text{ rate at } D1] \times (Awarded \text{ rate at } D1) / SOR \text{ rate at } D1$$

Where R1 = Awarded Rate  
 D1 = Awarded Lead  
 D2 = New Lead

R2 = Desired awarded rate at new lead D2





**Equipment wise breakup of rate for item no. 1 (Removal and Transportation of OB) & item 2 (Extraction of Coal)**

Hiring of HEMM for removal of Over Burden (OB) including drilling, excavating, dozing, grading, loading, transportation and sprinkling- <b>Hard OB</b>											
Sl	Description	0-1 Km	1-2 Km	2-3 Km	3-4 Km	4-5 Km	5-6 Km	6-7 Km	7-8 Km	8-9 Km	9-10 Km
	Lead (Km)	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
1	Cost of drilling of OB per cu.m	8.28	8.28	8.28	8.28	8.28	8.28	8.28	8.28	8.28	8.28
2	Cost of excavation of OB per Cu.m	27.42	27.42	27.42	27.42	27.42	27.42	27.42	27.42	27.42	27.42
3	Cost of Dozing of OB per Cu.m	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
4	Cost of Transportation of OB per Cu.m	36.82	48.42	62.32	75.77	88.65	101.19	113.34	125.26	136.94	148.43
5	Cost of Fog cannon per Cu.m	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76
6	Cost of Grading of roads per Cu.m of OB	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
<b>Total SOR</b>		<b>87.46</b>	<b>99.06</b>	<b>112.96</b>	<b>126.41</b>	<b>139.29</b>	<b>151.83</b>	<b>163.98</b>	<b>175.90</b>	<b>187.58</b>	<b>199.07</b>

Hiring of HEMM for removal of Over Burden (OB) including drilling, excavating, dozing, grading, loading and transportation and sprinkling - <b>Composite OB</b>											
Sl	Description	0-1 Km	1-2 Km	2-3 Km	3-4 Km	4-5 Km	5-6 Km	6-7 Km	7-8 Km	8-9 Km	9-10 Km
	Lead (Km)	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
1	Cost of drilling of OB per cu.m	8.28	8.28	8.28	8.28	8.28	8.28	8.28	8.28	8.28	8.28
2	Cost of excavation of OB per Cu.m	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78
3	Cost of Dozing of OB per Cu.m	6.14	6.14	6.14	6.14	6.14	6.14	6.14	6.14	6.14	6.14
4	Cost of Transportation of OB per Cu.m	35.89	47.19	60.75	73.85	86.41	98.63	110.47	122.09	133.47	144.67
5	Cost of Fog cannon per Cu.m	4.65	4.65	4.65	4.65	4.65	4.65	4.65	4.65	4.65	4.65
6	Cost of Grading of roads per Cu.m of OB	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80
<b>Total SOR</b>		<b>85.54</b>	<b>96.84</b>	<b>110.40</b>	<b>123.50</b>	<b>136.06</b>	<b>148.28</b>	<b>160.12</b>	<b>171.74</b>	<b>183.12</b>	<b>194.32</b>



Hiring of HEMM for removal of Over Burden (OB) including excavating, dozing, grading, loading and transportation and sprinkling - **Soft OB**

Sl	Description	0-1 Km	1-2 Km	2-3 Km	3-4 Km	4-5 Km	5-6 Km	6-7 Km	7-8 Km	8-9 Km	9-10 Km
	Lead (Km)	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
1	Cost of excavation of OB per Cum	25.31	25.31	25.31	25.31	25.31	25.31	25.31	25.31	25.31	25.31
2	Cost of Dozing of OB per Cum	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80
3	Cost of Transportation of OB per Cum	34.16	44.92	57.82	70.29	82.24	93.88	105.14	116.20	127.04	137.70
4	Cost of Fog cannon per Cum	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39
5	Cost of Grading of roads per Cum of OB	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59
<b>Total SOR</b>		<b>73.25</b>	<b>84.01</b>	<b>96.91</b>	<b>109.38</b>	<b>121.33</b>	<b>132.97</b>	<b>144.23</b>	<b>155.29</b>	<b>166.13</b>	<b>176.79</b>

Hiring of HEMM for removal of Over Burden (OB) including excavating, dozing, grading, loading and transportation and sprinkling - **Rehandling of loose dumped OB**

Sl	Description	0-1 Km	1-2 Km	2-3 Km	3-4 Km	4-5 Km	5-6 Km	6-7 Km	7-8 Km	8-9 Km	9-10 Km
	Lead (Km)	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
1	Cost of excavation of OB per Cum	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20
2	Cost of Dozing of OB per Cum	5.32	5.32	5.32	5.32	5.32	5.32	5.32	5.32	5.32	5.32
3	Cost of Transportation of OB per Cum	31.15	40.97	52.74	64.11	75.01	85.63	95.90	105.99	115.87	125.59
4	Cost of Fog cannon per Cum	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03
5	Cost of Grading of roads per Cum of OB	3.29	3.29	3.29	3.29	3.29	3.29	3.29	3.29	3.29	3.29
<b>Total SOR</b>		<b>66.99</b>	<b>76.81</b>	<b>88.58</b>	<b>99.95</b>	<b>110.85</b>	<b>121.47</b>	<b>131.74</b>	<b>141.83</b>	<b>151.71</b>	<b>161.43</b>

Hiring of HEMM for Extraction of Coal (Rs./Te) and rate for transportation may be taken from the coal Transportation table.

Sl	Description	Rs./Te
1	Cost of drilling of coal per Te	5.17
2	Cost of extraction of coal per Te	13.86
3	Cost of Dozing of coal per Te	3.51
4	Cost of Fog cannon for coal per Te	2.66
5	Cost of Grading of roads per Te	2.17
<b>Total SOR without transportation</b>		<b>27.37</b>