
 <b>KHUTANI POWER</b>	<b>Khutani Power Company Private Limited, (KPCPL)</b>	VOLUME: III
SPEC. NO. TCE.7784A-3057-02	Khutani Hydroelectric Project (21MW), Uttarakhand	SHEET 1 OF 10

**BILL OF QUANTITIES FOR PACKAGE-III**

Sl. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
1	Site Installation and Mobilization				
1.1	Jungle clearance and stripping including removal of debris and cutting of trees of any girth as directed by the Project Manager	m <sup>2</sup>	2,000.0		
<b>HEAD RACE TUNNEL</b>					
2	Open Excavation including excavation, loading, transport upto 1.50 km and unloading including all labour and materials at disposal sites or stockpiles as shown on the drawings or as directed by the Project Manager and maintenance of the disposal sites or stockpiles				
2.1	Excavation in ordinary soil	m <sup>3</sup>	954.0		
2.2	Excavation in soft rock	m <sup>3</sup>	1,590.0		
2.3	Excavation in hard rock requiring blasting	m <sup>3</sup>	396.0		
3	Filling and Backfill as shown on the drawings or as requested by the Project Manager, including the supply of the specified material and labour where excavated material is insufficient or not suitable				
3.1	Random backfill using excavated material	m <sup>3</sup>	300.0		
3.2	Backfilling with M15 Concrete	m <sup>3</sup>	100.0		
4	Slope Protection				


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Sl. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
4.1	Shotcrete M25 in surface works to the theoretical thickness shown on the drawings or as directed by the Project Manager-100mm thick	m <sup>2</sup>	830.0		
4.2	Resin grouted rock bolts in surface excavations, as shown on the drawings or as directed by the Project Manager, including all plant, labour and materials required for drilling, installing, grouting and testing of bolts of any length and diameter	m	415.0		
4.3	Drilling and installation of drainholes in surface excavations, including slotted PVC pipes, of any size and length as shown on the drawings or as directed by the Project Manager-6m long	m	500.0		
4.4	Miscellaneous steel profiles used in conjunction with installation of rockbolts including supply of all material and labour complete	MT	20.0		
4.5	Providing and laying of wire crates with stone boulders weighing not less than 25 kg each boulder, as per specifications & drawings and as directed by Project Manager.	m <sup>3</sup>	450		


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Sl. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
5	Underground excavation for tunnel including drilling, blasting, or other means of excavation including widening of top heading footings, breaking of shotcrete, lining in temporary invert, provision of surface drainage, construction ventilation, lighting arrangement during construction, temporary backfilling for traffic in tunnel, profiling / reprofiling of tunnel as per approved cross sections, removal and disposal of excavated material upto 1.50 km lead including temporary backfill to dumping site with all lifts .				
5.1	All classes of rock	m <sup>3</sup>	30,208.0		
5.2	Geological Overbreak	m <sup>3</sup>	1,200.0		
6	Supply, drilling, installation and resin grouting of fully grouted rockbolts of the specified length as per approved drawings & specifications or as directed by Project Manager. The rate shall include costs of all materials, labour, equipments etc. required for the complete job.				
6.1	Length	m	10,205.0		

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Sl. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
7	Fabrication and erection of steel ribs and all accessories including all lead, lift, wastage, storing, drilling holes, fixing in phases etc. as per approved workshop drawings of contractor & specifications and as directed by Project Manager. The rate shall include costs of all materials, labour, equipment, welding, etc for the complete job including additional cost for enlargement of top heading footing including the cost of structural steel	MT	69.0		
8	Shotcreting with designed mix cement concrete M25 as per specifications & drawings and as directed by Project Manager including all materials, labour, equipments, etc, required for complete job				
8.1	50 mm thick shotcrete lining in tunnel	Sqm	9,625.0		
8.2	100 mm thick shotcrete lining in tunnel (With Wiremesh)	Sqm	6,219.0		
9	Design mix cement concrete M25 in RCC works including machine mixed, machine batched, machine vibrated form work, etc but excluding the cost of reinforcement as per specifications & drawings and as directed by Project Manager.	m³	1,118.0		


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SI. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
10	Design mix cement concrete M20 in RCC works including machine mixed, machine batched, machine vibrated form work, etc but excluding the cost of reinforcement as per specifications & drawings and as directed by Project Manager.	m <sup>3</sup>	100.0		
11	Design mix cement concrete M20 in PCC works including machine mixed, machine batched, machine vibrated form work, etc as per specifications & drawings and as directed by Project Manager.	m <sup>3</sup>	2,544.0		
12	Grouting with drilling, cement & admixture complete in all respect as directed by project manager				
12.1	for contact grouting	m	600.0		
12.2	for consolidation grouting	m	3,600.0		
13	Exploratory drilling & Drainage holes, up to 25m length, 10m overlap as per approved drawings & specifications or as directed by project manager	m	1,680.0		
14	Cutting, bending, placing, binding steel reinforcement of grade Fe 500 as per approved drawings & specifications or as directed by Project Manager. This shall include straightening, hooking all lead, lift etc. ( Nothing extra shall be paid for wastage for reinforcement and binding wire)	MT	55.92		
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Sl. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
15	Supply and fixing in position Precast RCC Lagging including cost of reinforcement, complete in all respect -75mm thick	m <sup>3</sup>	301.0		
16	Backfill concrete for overbreak-M15	m <sup>3</sup>	1,200.0		
17	Additional lead beyond 1.5 Km for all types of soil and rock and disposal of excavated muck including all labour and materials at disposal sites or stockpiles as shown on the drawings or as directed by the Project Manager and maintenance of the disposal sites or stockpiles	Per Km	2.0		
18	Dewatering of construction sites including all construction works, labour, plant and materials necessary to keep the construction sites free of water during the contract period.	Kwh	4,000.0		
<b>SURGE SHAFT</b>					
19	Open Excavation including excavation, loading, transport upto 1.50 km and unloading including all labour and materials at disposal sites or stockpiles as shown on the drawings or as directed by the Project Manager and maintenance of the disposal sites or stockpiles				
19.1	Excavation in ordinary soil	m <sup>3</sup>	3,488.0		

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SI. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
19.2	Excavation in soft rock	m <sup>3</sup>	5,813.0		
19.3	Excavation in hard rock requiring blasting	m <sup>3</sup>	2,325.0		
20	Slope Protection				
20.1	Shotcrete with Wiremesh M25 including all materials in surface works to the theoretical thickness shown on the drawings or as directed by the Project Manager-100mm thick	m <sup>2</sup>	1,355.0		
20.2	Resin grouted rock bolts in surface excavations, as shown on the drawings or as directed by the Project Manager, including all plant, labour and materials required for drilling, installing, grouting and testing of bolts of any length and diameter	m	678.0		
20.3	Drilling and installation of drainholes in surface excavations, including slotted PVC pipes, of any size and length as shown on the drawings or as directed by the Project Manager-6m long	m	600.0		
21	Underground excavation for Surge shaft including drilling, blasting, or other means of excavation including construction ventilation, lighting arrangement during construction, dewatering, removal and disposal of excavated material upto 1.50 km lead including temporary backfill to dumping site with all lifts .				


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SI. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
21.1	All classes of rock	m <sup>3</sup>	6,674.0		
21.2	Geological Overbreak	m <sup>3</sup>	300.0		
22	Supply, drilling, installation and resin grouting of fully grouted rockbolts of the specified length as per approved drawings & specifications or as directed by Project Manager. The rate shall include costs of all materials, labour, equipments etc. required for the complete job.				
22.1	Length	m	1,442.0		
23	Fabrication and erection of steel ribs and all accessories including all lead, lift, wastage, storing, drilling holes, fixing in phases etc. as per approved workshop drawings of contractor & specifications and as directed by Project Manager. The rate shall include costs of all materials, labour, equipment, welding, etc for the complete job including additional cost for enlargement of top heading footing including the cost of structural steel	MT	28.0		
24	Shotcreting (With Wiremesh) with designed mix cement concrete M25 as per specifications & drawings and as directed by Project Manager including all materials, labour, equipments, etc, required for complete job-100 mm thick in Surge shaft	Sqm	2,091.0		


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Sl. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
25	Design mix cement concrete M25 in RCC works including machine mixed, machine batched, machine vibrated form work, etc but excluding the cost of reinforcement as per specifications & drawings and as directed by Project Manager.	m <sup>3</sup>	1,550.0		
26	Design mix cement concrete M20 in RCC works including machine mixed, machine batched, machine vibrated form work, etc but excluding the cost of reinforcement as per specifications & drawings and as directed by Project Manager.	m <sup>3</sup>	122.0		
27	Grouting with drilling, cement & admixture complete in all respect as directed by project manager				
27.1	for contact grouting	m	84.0		
27.2	for consolidation grouting	m	1,008.0		
28	Cutting, bending, placing, binding steel reinforcement of grade Fe 500 as per approved drawings & specifications or as directed by Project Manager. This shall include straightening, hooking all lead, lift etc. ( Nothing extra shall be paid for wastage for reinforcement and binding wire)	MT	83.62		
29	Supply and fixing in position Precast RCC Lagging including cost of reinforcement, complete in all respect -75mm thick	m <sup>3</sup>	100.0		
30	Backfill concrete for overbreak-M15	m <sup>3</sup>	300.0		
31	Additional lead beyond 1.5 Km for all types of soil and rock and disposal of excavated muck including all labour and materials at disposal sites or stockpiles as shown on the drawings or as	Per Km	2.0		

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SI. No.	ITEM OF WORK	UNIT	Qty.	Rate (In INR)	Amount (In INR)
	directed by the Project Manager and maintenance of the disposal sites or stockpiles				
<b>Total</b>					
<b>In Words:</b> Rupees.....					

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