

BILL OF QUANTITY CUM PRICE SCHEDULE

ANNEXURE-I(a)

Name of Project

: 400kv substation at Nagda

Name of Work

: Civil works of Foundations for structures

(including foundation of peripeherial lightning poles)

Name of Contractor:-

SI. No.	PARTICULARS	USR item No.	Unit	USR unit rate effective from 2009	NAGDA 125 MVAR Reactor (TOTAL QTY)	Total Amount (Rs.)
1	Excavation in hard soil i/c 50 m lead and 1.5 m lift with dressing.	401(b)	Cum	26.00	47.00	1222.00
2	Excavation in hard moorum & moorum with boulder i/c 50 m lead and 1.5 m lift with dressing.	402	Cum	36.00	0.00	
3	Excavation in DR i/c 50 m lead and 1.5 m lift with dressing.	403	Cum	71.00	0.00	
4	Excavation in SR i/c 50 m lead and 1.5 m lift with dressing.	404	Cum	122.00	0.00	
5	Excavation in HR i/c 50 m lead and 1.5 m lift with dressing. (a) Blasting permitted	405(a)	Cum	196.00	0.00	
	Excavation in HR i/c 50 m lead and 1.5 m lift with dressing. (b) Blasting prohibited	405(b)	cum	233.00	0.00	
6	Cement concrete 1:4:8 with graded metal of 40 mm size.	717 (b)	Cum	1486.00	1.50	2229.00
7	Cement concrete 1:2:4 with graded metal of 20 mm size.	715 (c)	Cum	2299.00	0.00	
8	Supplying and fixing steel reinforcement bars (tested) R.C.C. including cleaning straightening, cutting, bending, all handling, placing in position and binding with 0.9 mm annealed binding wire confirming to I.S.280-1978 (i/c cost of binding wire)					
	(b) Cold worked steel high strength bars confirming to grade Fe 415 of I.S.1786	1304(b)	Kg	41.00	272.00	11152.00
	(a) MS steel bars confirming to grade -I of I.S.432 (Pt-I)	1304(a)	Kg	40.00	55.00	2200.00
9	P/P in position M-20 RCC excluding cost of reinforcement but including ,formwork vibration, finishing, curing etc. complete with graded metal of max.size 20 mm.	1601(b)	Cum	4253.00	8.00	34024.00
10	Steel work in single section including supplying, forging and hoisting, fixing in position etc. complete-(b) In angles, channels, flates and tees	1301(b)	Kg.	42.00	50	2100.00
11	Second class T.M. open bhatta or pajwa burnt brick masonry in C.M. 1:6 in plinth and found for one or half brick wall .	901(e)-906+909	Cum	1677.00	0.00	
12	15mm thick cement plaster on brick work in CM 1:6	1105 c	Sqm	64.00	0	
13	Filling foundation and arround masonry works with hard moorum & moorum with boulder including watering and ramming.	703	Cum	95.00	8	760.00
14	Filling foundation and arround masonry works with hard moorum & picked up boulder including watering and ramming.	705	Cum	195.00	30	5850.00
15	Labour only for filling foundation and arround masonry works with material obtained from spoils including watering and ramming.	709(a)	Cum	43.00	0	
16	P&F bolts upto & above 300 mm in length l/c nuts & washers , galvanisation complete.	1336	Kg	77.00	0.00	
17	Transportation of excavated earth upto 200 m beyond initial lead of 50 mtr.	2902(2)-(a)-2903(4)	Cum	37.26	47.00	1751.22
	Total Amount (A)					61288.22

BILL OF QUANTITY CUM PRICE SCHEDULE

ANNEXURE-I(b)

Name of Project

:400kv substation at Nagda

Name of Work

: Civil works of Earth pits

Name of Contractor:-

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SI. No.	PARTICULARS	USR item No.	Unit	USR unit rate effective from 2009	NAGDA 125 MVAR Reactor (TOTAL QTY)	Total Amount (Rs.)
1	Excavation in hard soil includg.50m lead & 1.5m lift with dressing.	401(b)	Cum	26.00	15.00	390.00
2	Excavation in hard moorum & moorum with boulder i/c 50 m lead and 1.5 m lift with dressing.	402	Cum	36.00		
3	Excavation in SR i/c 50 m lead and 1.5 m lift with dressing.	404	Cum	122.00		
4	PCC 1:4:8 with graded metal of 40mm size	717(b)	Cum	1486.00	3.00	4458.00
5	Supplying & Fixing steel reinforcement bars tested for RCC includg.cleaning, straightening,cutting bending all handling,placing in position and binding with 0.9mm annealed binding wire confirming to IS 280.1978 (incldg.cost of binding wire)					
	b.Cold worked steel high strength bars confirming to grade FE 415 of IS 1786	1304(b)	Kg	41.00	250.00	10250.00
	a. MS Steel Bars confirming to Grade-I of IS 432 Part-I.	1304(a)	Kg	40.00	170.00	6800.00
6	P & P in position M-20 RCC excluding cost of reinf. but including form work, vibration, finishing, curing etc.complete with graded metal of Max.size 20mm.	1601(b)	Cum	4253.00	9.00	38277.00
7	Labour only for Filling foundation and arround masonry works with material obtained from spoils including watering and ramming.	709(a)	Cum	43.00	5.00	215.00
8	Filling foundation and arround masonry works with moorum & moorum with boulder including watering and ramming.	703	Cum	95.00		
9	P & F Galvanised mild steel tubes(Medium Grd) IS 1239 (Part -I -1979) complete with fittings incldg. trenching and refilling etc.complete.(External work).					
	15mm dia	3004 (a)	Rm	116.00	100.00	11600.00
	20mm dia	3004 (b)	Rm	144.00	50.00	7200.00
	25mm dia	3004 (c)	Rm	178.00	100.00	17800.00
	40mm dia	3004 (e)	Rm	225.00	70.00	15750.00
10	P & F in position best Indian Make Copper alloy gate, globe and check valve(Class-I) IS 778 with Iron wheel head etc. complete.					
	20mm dia	3007 (b)	Each	311.00	2.00	622.00
	25mm dia	3007 (c)	Each	385.00	5.00	1925.00
	40 mm dia	3007 (e)	Each	589.00	2.00	1178.00
11	P & F in position IS apprpved quality Copper Alloy Bib Cock 15 mm dia heavy duty complete with all materials etc.	3020(a)	Each	219.00	15.00	3285.00
	Total Amount (A)					119750.00

BILL OF QUANTITY CUM PRICE SCHEDULE

ANNEXURE-I©

Name of Project

400kv substation at Nagda

Name of Work

Civil works for construction of Cable Trench

Name of Contractor:

Sl. No.	PARTICULARS	USR item No.	Unit	USR unit rate effective from 2009	NAGDA 125 MVAR Reactor (TOTAL QTY)	Total Amount (Rs.)
1	Excavation in hard soil i/c 50 m lead and 1.5 m lift with dressing.	401(b)	Cum	26.00	200	5200.00
2	Excavation in hard moorum & moorum with boulder i/c 50 m lead and 1.5 m lift with dressing.	402	Cum	36.00	0	
3	Excavation in DR i/c 50 m lead and 1.5 m lift with dressing.	403	Cum	71.00	0	
4	Excavation in SR i/c 50 m lead and 1.5 m lift with dressing.	404	Cum	122.00	0	
5	Excavation in HR i/c 50 m lead and 1.5 m lift with dressing. (a) Blasting permitted)	405(a)	Cum	196.00	0	
6	Excavation in HR i/c 50 m lead and 1.5 m lift with dressing. (b) Blasting prohibited)	405(b)	Cum	233.00	0	
7	PCC 1:4:8 with graded metal of 40mm size	717(b)	Cum	1486.00	16	23776.00
8	Cement concrete 1:2:4 with graded metal of 20 mm size.	715 (c)	Cum	2299.00	2	4598.00
9	Supplying and fixing steel reinforcement bars (tested) R.C.C. including cleaning straightening, cutting, bending, all handling, placing in position and binding with 0.9 mm annealed binding wire confirming to I.S.280-1978 (i/c cost of binding wire)					
	(b) Cold worked steel high strength bars confirming to grade Fe 415 of I.S.1786	1304(b)	Kg	41.00	1500	61500.00
10	P/P in position M-20 RCC excluding cost of reinforcement but including ,formwork vibration, finishing, curing etc. complete with graded metal of max.size 20 mm.	1601(b)	Cum	4253.00	35	148855.00
11	Steel work in single section including supplying, forging and hoisting, fixing in position etc. complete-(b) In angles, channels, flates and tees	1301(b)	Kg.	42.00	900	37800.00
12	Second class T.M. open bhatta or pajwa burnt brick masonry in C.M. 1:6 in plinth and found for one or half brick wall .	901(e)-906+909	Cum	1677.00		
13	15mm thick cement plaster on brick work in CM 1:6	1105 c	Sqm	64.00		
14	Filling foundation and arround masonry works with hard moorum & moorum with boulder including watering and ramming.	703	Cum	95.00	40	3800.00
15	Filling foundation and arround masonry works with hard moorum picked up noulder including watering and ramming.	705	Cum	195.00	60	11700.00
16	Labour only for filling foundation and arround masonry works with material obtained from spoils including watering and ramming.	709(a)	Cum	43.00		
17	Priming coat with ready mixed paint l/c preparing the surface.	1803	Sqm	19.00	30	570.00
18	Painting two or more coats (excluding priming coat) on new surfaces with with enamel paint (IS:2933-1975) to give an even shade.	1808	Sqm	27.00	37	999.00
19	P&L in position cement concrete with graded metal of max. 20 mm for coping complete (a) 1:2:4 concrete	2455(a)	Cum	4136.00	1	4136.00

	NON USR ITEMS					
1	Providing and Fixing 5mm or 8 mm thick chequered plates of mild steel for cable trench covers, of desired size including fixing of handles, 2 Nos.on each end made of 10mm dia 500mm long MS Bar including making holes in the covers for handles to drop down as per approved drawing including cost of all material, cutting, welding, grinding T&P, taxes transportation complete as per direction of Engineer-in-Charge. (Upto opening of the size of "D" type cable trench, 5 mm thick covers will be used and for opening larger than "D" type trench , 8 mm thick covers will be used)					
	(Base rate : Rs. 75/ per Kg).	NUSR	Kg	75.00	650	48750.00
2	Providing & Laying of 160 mm diameter heavy duty PVC Pipes beneath the yard capable to withstand minimum pressure 4 Kg. per sq. cm. laid over 75 mm thick plain cement concrete of mix 1:4:8 (1 Cement: 4 sand: 8 metal) , pipe fixed in main trench wall and running upto desired point & secured through fixing of pipe cap or plugging the same by suitable sealing adhesives including all lead & lift and cost of all material, excavation of trench, refilling, compaction, transportation, royalty, taxes, levies, labour charges, T&P and other consumable etc. complete as directed by Engineer-in-charge					
	(Base Rate Rs. 700/- per metre)	NUSR	Mtr	700.00		
	Toatl Amount (A)					351684.00

BILL OF QUANTITY CUM PRICE SCHEDULE						ANNEXURE-I(e)
Name of Project		400kv substation at Nagda				
Name of Work		Civil Works for Yard Levelling				
Sl. No.	PARTICULARS	USR item No.	Unit	USR unit rate effective from 2009	NAGDA 125 MVAR Reactor	Total Amount (Rs.)
1	Excavation in hard soil i/c 50 m lead and 1.5 m lift with dressing.	401(b)	Cum	26.00	400	10400.00
2	Excavation in hard moorum & moorum with boulder i/c 50 m lead and 1.5 m lift with dressing.	402	Cum	36.00	-	-
3	Excavation in DR i/c 50 m lead and 1.5 m lift with dressing.	403	Cum	71.00	-	-
4	Excavation in SR i/c 50 m lead and 1.5 m lift with dressing.	404	Cum	122.00	-	-
5	Excavation in HR i/c 50 m lead and 1.5 m lift with dressing. (a) Blasting permitted)	405(a)	Cum	196.00	-	-
	Excavation in HR i/c 50 m lead and 1.5 m lift with dressing. (b) Blasting prohibited	405(b)	cum	233.00	-	-
6	Transportation of excavated earth upto 200 m beyond initial lead of 50 mtr.	2902(2)-- (a)-- 2903(4)	Cum	37.26	200	7452.00
7	Compaction of earth at OMC to achieve 90%.dry density by non mech. sheepfoot roller/vibratory compactors etc. I/c. watering earth work for compaction at OMC with lead upto 100 m	417((b)+ 418(a)	Cum	25.00	400	10000.00
	Total Amount (A)					27852.00

BILL OF QUANTITY CUM PRICE SCHEDULE				ANNEXURE-I(f)		
Name of Project		400kv substation at Nagda				
Name of Work		Civil Works of Yard Metalling Works				
Name of Contractor:-						
Sl.No.	Description of Item	USR item No.	Unit	USR unit rate effective from 2009	NAGDA 125 MVAR Reactor (TOTAL QTY)	Total Amount (Rs.)
1	Supply,stacking and spreading of 40mm crusher broken metal black trap, basalt or granite uniformly in substation yard in desired thickness, free from dust and foreign matter,including transportation up to site, lead and lift, T&P, labour,royalty and taxes etc. complete as directed by Engineer-in-charge. (Base Rate Rs. 1100/- per Cum.))	NUSR	Cum	1100.00	210.00	231000.00
2	Providing & Laying stone crusher dust (1st layer) and mix of stone crusher dust & cement (2nd layer) in substation yard as indicated below (applicable for other than B.C.soil strata) : (a) <u>1st layer</u> : Providing & Laying stone crusher dust (free from organic matter and foreign matters etc.) of average thickness 50 mm including spreading, watering so as to attain desired degree of moisture for optimum compaction, compaction by light roller, making top surface levelled, even and smooth etc. for all lead & lift including cost of all material, transportation, royalty, taxes, levies, labour charges, T&P and other consumable etc. complete as directed by Engineer-in-charge.					
	(b) <u>2nd layer</u> : Providing & Laying mixture of stone crusher dust (free from organic matter and foreign matters etc.) and cement in ratio of 1 : 14 (1 cement : 14 stone crusher dust, the quantity of cement shall not be less than 1 standard bag of 50 Kg. in 0.5 Cum of stone crusher dust) of minimum thickness 50 mm including mixing of stone crusher dust and cement in mixer with desired water cement ratio, laying, vibration, curing etc.complete to give a perfect cohesive, smooth & even surface , finishing as per requirement ,cleaning etc. including all lead & lift and cost of all material, transportation, royalty, taxes, levies, labour charges, T&P and other consumable etc. complete as directed by Engineer-in-charge					
	(Base Rate combined for both the layers @ Rs. 103/--per Sqm).	NUSR	Sqm	103.00	0.00	0.00
	Note: This item shall not be executed without prior permission of CE(Civil-Trans.). The quantity of stone crusher dust shall be measured in volumetric terms also so as to exercise cross check.					
3	Providing & Laying stone crusher dust (1st layer) and mix of stone crusher dust & cement (2nd layer) in substation yard as indicated below (applicable for B.C.soil strata) : (a) <u>1st layer</u> : Providing & Laying stone crusher dust (free from organic matter and foreign matters etc.) of average thickness 100 mm including spreading, watering so as to attain desired degree of moisture for optimum compaction, compaction by light roller, making top surface levelled, even and smooth etc. for all lead & lift including cost of all material, transportation, royalty, taxes, levies, labour charges, T&P and other consumable etc. complete as directed by Engineer-in-charge.					
	(b) <u>2nd layer</u> : Providing & Laying mixture of stone crusher dust (free from organic matter and foreign matters etc.) and cement in ratio of 1 : 14 (1 cement : 14 stone crusher dust, the quantity of cement shall not be less than 1 standard bag of 50 Kg. in 0.5 Cum of stone crusher dust) of minimum thickness 50 mm including mixing of stone crusher dust and cement in mixer with desired water cement ratio, laying, vibration, curing etc.complete to give a perfect cohesive, smooth & even surface , finishing as per requirement ,cleaning etc. including all lead & lift and cost of all material, transportation, royalty, taxes, levies, labour charges, T&P and other consumable etc. complete as directed by Engineer-in-charge					
	(Base Rate combined for both the layers @ Rs. 135/--per Sqm).	NUSR	Sqm	135.00	2650.00	357750.00

	Note: This item shall not be executed without prior permission of CE(Civil-Trans.). The quantity of stone crusher dust shall be measured in volumetric terms also so as to exercise cross check.					
4	Providing and Fixing pre-cast Cement concrete M-15 strength, kerb stone of suitable size with excavation 150mm deep and thoroughly compacting the surface before laying the Kerb stone and will be back filled with CC 1:3:6 jointing the tiles with C.M.1:4 painting with synthetic enamel paint in coloured stripes painted alternatively, complete as per direction of the Engineer-in-charge					
	Kerb stone of size 450mmx300mmx60mm (Base Rate Rs. 125/- per M)	NUSR	RM	125.00	250.00	31250.00
5	Providing and laying precast cement concrete inter-locking paving blocks (the compressive strength should not be less than 350 kg/cm2) manufactured as per relevant IS Specification by electric hydraulically operated block making machine of appropriate size & shape, laid over 50 mm thick bedding layer of river sand or stone crusher dust i/c sand brushing complete, joint 3 mm thick filled by fine sand i/c levelling, tamping & sweeping etc. complete i/c cost of all material & preparation of bedding surface with all material , all taxes, T&P, etc. complete as per direction of Engineer-in-charge. (Size & pattern of tiles shall be decided by the Engineer-in-charge.)					
	60 mm thick paving blocks-Base rate Rs.450/- per Sqm	NUSR	Sqm	450.00	200.00	90000.00
	Total Amount (A)					710000.00