

RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LTD.

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No. RVPN/SE(P&P)/XEN(Proj.)/AE-1/F. ID. 59

Jaipur, Dt. 13/4/10


The Chief Engineer (T&C/Civil/MM/LD),
Rajasthan Rajya Vidyut Prasaran Nigam Ltd.,
JAIPUR/JODHPUR/AJMER.

Sub: Approval of new 220kV schemes.

The Board of Directors of RVPN in its 178th meeting held on 23rd March, 10 have accorded its administrative and financial approval for the construction of 8 Nos., 220kV Grid Substations at Bundi (New), Gajner (New), Manoharpur (up-gradation), Padampur (Up-gradation), Sawa (Up-gradation), Gangapurcity (New), Kuchera (New) and Aspur (New) alongwith associated 220kV and 132kV Interconnecting lines and allied works for execution at an aggregated estimated cost of Rs.374.82 Crores (including IDC amount) as per individual cost estimates indicated as under:

S. No.	Name of Sub-Station	Associated line(s)	Line Length (in km)		(Rs. in lacs.)	
					Estimated Cost (including IDC)	Saving# (in LUs per annum)
1	220/132kV, 1x100 MVA & 132/33kV, 1x20/25 MVA GSS at Bundi (New location) (Distt. Bundi)	(i) LILO of existing 220 kV S/C KTPS-Heerapura line at proposed 220 kV GSS Bundi	12	km D/C	3735.76	10.97
		(ii) LILO of existing 132 kV S/C Talera-Bundi line at proposed 220 kV GSS Bundi	5	km D/C		
		(iii) 132 kV S/C Bundi (220 kV GSS)-Bundi (132 kV GSS) line	7	km S/C		
2	220/132kV, 1x100 MVA & 132/33kV, 1x20/25 MVA GSS at Gajner (New location) (Distt. Bikaner)	(i) 220 kV D/C Bikaner (400kV GSS)-Gajner line	50	km D/C	5512.08	50.71
		(ii) LILO of existing 132 kV S/C Pugal Road-Gajner (PS-4) line at proposed 220 kV GSS Gajner.	10	km D/C		
		(iii) LILO of existing 132 kV S/C Bhinasar-Kolayat line at proposed 220 kV GSS Gajner.	10	km D/C		
3	220/132kV, 1x100 MVA GSS at Manoharpur (Upgradation) (Distt. Jaipur)	(i) 220 kV D/C Kotputli-Manoharpur line	60	km D/C	5310	32.82
		(ii) 132 kV S/C Manoharpur-Shahpura line (Second circuit)	15	km S/C		
		(iii) 132 kV S/C Manoharpur-Ajeetgarh line.	30	km S/C		
4	220/132kV, 1x100 MVA GSS at Padampur (Upgradation) (Distt. Sri Ganganagar)	(i) 220 kV S/C Suratgarh-Padampur line.	55	km S/C	565	2.06
		(ii) 220 kV S/C Padampur-Udyogvihar line	40	km S/C		
		(iii) 220 kV S/C Udyogvihar-Hanumangarh line	60	km S/C		


Letter for conveying Board's approval


(Er. H.R. Bamanja)
Executive Engineer (T&C)
RVPN, Hanumangarh
(Mob. 9413382761)

5	220/132kV, 1x100 MVA GSS at Sawa (Upgradation) (Distt. Chittorgarh)	(i) LILO of existing 220 kV S/C RAPP(A)-Debari line at proposed 220 kV GSS Sawa.	6	kM D/C	2806.29	152.87
		(ii) LILO of existing 220 kV S/C Chittorgarh-Nimbahera line at proposed 220 kV GSS Sawa.	1	kM D/C		
6	220/132kV, 1x100 MVA & 132/33kV, 1x20/25 MVA GSS at Gangapurcity (New location) (Distt. Sawai Madhopur)	(i) 220 kV D/C Hindaun (400 kV GSS) - Gangapurcity line	50	kM D/C	6116.11	140.76
		(ii) 132 kV D/C Gangapurcity (220 kV GSS)-Gangapurcity(132 kV GSS) line	5	kM D/C		
		(iii) 132 kV S/C Gangapurcity (220 kV GSS)-Sapotra line	25	kM S/C		
		(iv) 132 kV S/C Gangapurcity (220 kV GSS)- Shrimahavir ji line	35	kM S/C		
7	220/132kV, 1x100 MVA & 132/33kV, 1x20/25 MVA GSS at Kuchera (New location) (Distt. Nagaur)	(i) LILO of 220 kV Nagaur - Merta line at proposed 220 kV GSS Kuchera	12	kM D/C	3630.92	32.92
		(ii) LILO of existing 132 kV Kuchera - Mundwa line at proposed 220 kV GSS Kuchera	3	kM D/C		
		(iii) LILO of existing 132 kV Kuchera - Sanjoo line at proposed 220 kV GSS Kuchera	1	kM D/C		
8	220/132kV, 1x100 MVA & 132/33kV, 1x20/25 MVA GSS at Aspur (New location) (Distt. Dungarpur)	(i) Stringing of IInd circuit of 220kV D/C Banswara-Debari line from Debari to Salumber	77	kM S/C	4712.12	67.73
		(ii) LILO of IInd circuit of 220kV D/C Banswara-Debari line at proposed 220 kV GSS at Aspur	5	kM D/C		
		(iii) LILO of existing 132 kV Salumber - Sagwara line at proposed 220 kV GSS Aspur	10	kM D/C		
		(iv) LILO of existing 132 kV Salumber - Dhariyawad line at proposed 220 kV GSS Aspur	10	kM D/C		
TOTAL					37482.21	650.85
			Say Rs.		374.82	Crores


A copy of the Consolidated Project Estimate Report of the above Schemes, is enclosed herewith for your kind information and needful. The execution of the above scheme is to be done as per individual plan provisions made for each of the scheme in Annual Plan(s) sent to you from time to time. You are requested to kindly endorse the above to all concerned field officers who will supervise/under take the execution of the above scheme.

Enc!: As above.


(B.N. Saini)
Chief Engineer (PPM)

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Executive Engineer (T&C)
RVPN, Hanumangarh
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Copy alongwith a copy the Project Report of the aforesaid 220kV schemes to the following for information & necessary action :-

1. The Chief Controller of Accounts, RVPN, Jaipur.
2. The Secretary (Admn.), RVPN, Jaipur.
3. The Superintending Engineer (TCC-I/II/III/V/VII/IX), RVPN, Jaipur/Ajmer/Kota/Udaipur/Bikaner
4. The Superintending Engineer (400kV GSS), RVPN, Heerapura/Ratangarh/Jodhpur
5. The Superintending Engineer (SSPC/TLPC/PLCC), RVPN, Jaipur.
6. The TA to Director (Technical), RVPN, Jaipur.
7. The Land Acquisition Officer, RVPN, Jaipur. (without project report).
8. The Company Secretary, RVPN, Jaipur (without Project Report) (Item No. 178.15 of BOD).
9. The Executive Engineer (PSS/ Monitoring), RVPN, Jaipur. (without project report).

Encl: As above.


13.4.10
Chief Engineer (PPM)

Letter for conveying Board's approval


(Er. H.R. Bamanja)
Executive Engineer (T&C)
RVPN, Hanumangarh
(Mob. 9413382761)

ABSTRACT COST ESTIMATE

SCHEME: 220/132kV, 1x100 MVA GSS at Padampur (Upgradation) (Distt. Sri Ganganager)

Associated Lines:

(i) 220 kV S/C Suratgarh-Padampur line.	55	kM S/C
(ii) 220 kV S/C Padampur-Udyogvihar line	40	kM S/C
(iii) 220 kV S/C Udyogvihar-Hanumangarh line	60	kM S/C

S.No.	Particulars	Amount (Rs. in lacs)
1	Preliminary expenses	18.60
2	Land	31.00
3	PLCC & Telephones	113.44
4	Office Equipments	3.00
5	Social Infrastructure & Community Services	7.00
6	Civil Works	480.50
7	Sub-station equipments	1699.18
8	Transmission lines	2749.70
9	Workshop & Laboratory Test equipments	15.00
10	Vehicle	20.00
GRAND TOTAL		5137.42

Capital cost of scheme (excluding IDC)= Rs. 5137.42 lacs.

Capital cost of scheme (including IDC)= Rs. 5658.46 lacs.

Note: The provision for items at Sr. no. 3 and 7 to 8 above are inclusive of overhead charges as per order no. RVPN/CCOA/Estt.-Cont./F.51/D. 455 dt. 22.2.2008 (Control-139), whereas, for other items; lump sum provision have been shown.


 (Er. H.R. Bamanja)
 Executive Engineer (T&C)
 RVPN, Hanumangarh
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COST ESTIMATE DETAILS OF 220/132kV, 1x100 MVA GSS AT

PADAMPUR (UPGRADATION) (DISTT. SRI GANGANAGER)

4.1 PRELIMINARY EXPENSES

A total provision of Rs. 18.6 lacs has been made under the head Preliminary Expenses to cover the cost of survey/check survey of 220kV lines associated with the scheme as indicated hereunder:

S. No.	132kV Line Section	Line Length (in km)	Rate per km	Amount (Rs. in lacs)
1.	220 kV S/C Suratgarh-Padampur line.	55 S/C	0.12	6.60
2	220 kV S/C Padampur-Udyogvihar line	40 S/C	0.12	4.80
3	220 kV S/C Udyogvihar-Hanumangarh line	60 S/C	0.12	7.20
Total				18.60

4.2 LAND

A total provision of Rs. 31.00 lacs has been made under this head to cover the cost towards compensation for Right of way (Crop, Land under transmission line towers & Camp Building etc.) as per the following details :-

S. No.	Particulars	Amount in lacs.
a.	Cost of land for construction of 220kV GSS #	0.00
b.	Compensation for Right of Way (Crop, Land under Transmission line towers & Camp Building etc. @ Rs. 20000/- per km for 220kV Transmission line	31.00
Total		31.00

The proposed 220kV GSS is to be constructed by upgrading the existing 132kV GSS for which land is available at the existing 132kV GSS, therefore, no provision towards land cost has been made.

4.3. PLCC & TELEPHONES

A provision of Rs. 113.44 lacs has been made under this head to cover the cost of indoor, outdoor telephone equipments, local telephone and power line carrier equipments or telecommunication carrier protection and V.H.F. equipments etc. for communication facilities on 220kV interconnecting lines under the scheme as per following details :-

S. No.	PLCC Equipments on Line Section	Amount in lacs.
1	220 kV S/C Suratgarh-Padampur line at Padampur end	42.48
2	220 kV S/C Padampur-Udyogvihar line	35.48
3	220 kV S/C Udyogvihar-Hanumangarh line	35.48
Total		113.44

The cost estimates of above 220kV PLCC items are as per Appendix-A1 & A2.

4. OFFICE EQUIPMENTS

A provision of Rs. 3.00 lacs has been made under the head "Office Equipments" for purchase of furniture, other office equipments for furnishing of control room/rest room at 220kV Substation and utility equipments viz. Water Purifier, Gas Connection with Gas Stove, Colour TV with remote and Voltage Stabilizer and Dish Antenna.

4.5 SOCIAL INFRASTRUCTURE & COMMUNITY SERVICES

A total provision of Rs. 7.00 lacs has been made under the head "Social Infrastructure & Community Services" to meet out the expenses towards arrangements of temporary sheds, lat-bath, drinking water, any first aid medical facility etc. for labour/workers involved in construction of substation and line during construction stage as per following :

S. No.	Particulars	Amount (Rs. In lacs.)
1.	For 220kV Substation	1.0
2.	For 220 lines associated with the substation (2.0x3)	6.0
	Total	7.0

4.6 CIVIL WORKS

A provision of Rs. 480.50 lacs has been made under the head Civil Works to cover the cost of various types of non-residential, residential and Boundary cum fencing wall, Approach road/paths, drinking water supply system, Reservoir, Store Shed, Cooling System and Rain water harvesting system etc. at the sub-station as per following details:

S.No	Particulars	Quantity	Rate	Total
A.	Extension of Control room building at 220kV GSS	1	50.00	50.00
B.	Residential Buildings :			
a.	R-2 type Bungalow	1	22.00	22.00
b.	R-3 type Bungalow (one Quarter already existing)	1	12.50	12.50
c.	R-4 type Bungalow (four Quarters already existing)	0	9.50	0.00
d.	R-5 type Bungalow (6 Nos. R5 type & 8 quarters of helper already existing)	0	6.75	0.00
C.	Common Facilities at 220kV GSS :			
a.	Construction of Boundary wall & fencing (6'+2' Y fencing) including a Hut for Security Guard/Chowkidar	LS	LS	65.00
b.	Approach Road/ paths	LS	LS	30.00
c.	Water Supply Arrangement including Ground Level Reservoir (GLR)	LS	LS	30.00
d.	Construction of Store Shed on the GSS land for storing consigned equipment/material directly to the site.	LS	LS	12.00
e.	Air Conditioning & False ceiling in Control Room Building	LS	LS	21.00
f.	Rain water harvesting & spill oil collection sump.	LS	LS	16.00
g.	Development works	LS	LS	15.00

h.	Cable trenches in Switchyard & Control room	LS	LS	60.00
i.	Yard Grading (Concrete) below gravelling in yard for anti-weeding	LS	LS	95.00
j.	Civil foundation for an additional 220/132kV Transformer @10% of the cost of Transformer.	LS	LS	52.00
Total				480.50

Note:-

1. Though the above provisions have been made in the project report, but, the complete civil works are to be carried out in accordance with the decision taken in the 28th Co-ordination Committee meeting held on 9th & 10th Oct,2001 on the reports of committee constituted to recommend measures for reduction in the cost of construction of 220/132 GSS and 33/11kV Substations and also any subsequent decisions taken in this regard from time to time.
2. The water supply arrangement would be made from available nearest PHED connection point, if not available then arrangement for tube well would be made. A water treatment plant would also be constructed if needed. Therefore, expenditure made for water supply arrangement may vary accordingly.

4.7 GRID SUB-STATION EQUIPMENTS

A provision of **Rs. 1699.18 lacs** has been made under this head to cover the cost of electrical equipments required for the substation under the scheme. These equipments include transformer, indoor & outdoor, switch-gear, power and control cables, auxiliary transformer, lightening arrestors, D.C. equipments, control and relay boards, steel structures, SCADA, Fire fighting equipments etc. The details of the equipments to be provided at 220kV Padampur GSS is given at **Appendix-H1** and their cost estimates is given at **Appendix-H**. The details of equipment to be provided for one no.220kV feeder bay extension at each of 220kV GSS Suratgarh, Udyogvihar & Hanumangarh is as per **Appendix-F1** and their cost estimate is as per **Appendix-F**.

S. No.	Name of Substation	Amount in lacs.
1.	220/132kV, 1x100 MVA GSS at Padampur	1438.42
2.	3 Nos.extension feeder bays each at 220kV GSS Suratgarh, Udyog Vihar & Hanumangarh(3x86.92)	260.76
Total		1699.18

4.8 TRANSMISSION LINE

A total provision of **Rs. 2749.70 lacs** have been made under this head to cover the cost of 220kV Transmission line of the scheme as per the following details :-

S. No.	Section of Line	Route length in km	Rate per km	Amount in lacs.
1.	220 kV S/C Suratgarh-Padampur line.	55 S/C	17.74	975.70
2	220 kV S/C Padampur-Udyogvihar line	40 S/C	17.74	709.60
3	220 kV S/C Udyogvihar-Hanumangarh line	60 S/C	17.74	1064.40
Total				2749.70

The above per km. estimate of 220kV S/C is as per **Appendix-V**.

4.9 WORKSHOP & LABORATORY TESTING EQUIPMENT

A provision of **Rs. 15.00 lacs** has been made to cover the cost of general workshop machinery for regular repair and maintenance and some essential tools to be provided at 220kV proposed substation.

4.10 VEHICLE

A provision of **Rs. 20.00 lacs** has been made for purchase of a light motor vehicle required for 220kV proposed substation.
