

INTEGRATED POWER DEVELOPMENT SCHEME
(IPDS)

State

HARYANA

**Name of Govt Utility
Implementing Project**

DHBVN

**Name of the Project Area
(Circle/ Zone/ Utility)**

Bhiwani

Detail Project Report

**Strengthening of sub-transmission & distribution network
including metering**

Ref no. of DPR

Bhiwani/DHBVN/HARYANA

Submitted to

POWER FINANCE CORPORATION LTD.

Date of Submission



POWER FINANCE CORPORATION LTD.
Detail Project Report
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Detail Project Report

Guidelines for DPR Preparation & Implementation

The DPR shall be prepared, base on IPDS guidelines as issued from MoP, Gol. Some salient features of IPDS guidelines & additional guidelines for DPR preparation is mentioned below. In case of any mis-match between IPDS guideline issued from MoP & DPR guideline as mentioned below, the IPDS guideline as issued from MoP, Gol shall prevail.

1	DPR is to be prepared based on the broad scope of work validated by Nodal agency at 1st Stage during discussion with utility on NAD, on detailed field survey and latest approved schedule of rates for various items of work. The DPRs shall be duly recommended by the Distribution Reforms Committee (DRC) at the State level. The Nodal Agency will separately provide comparable costs sourced from CPSUs for major equipment for reference of the utility. These reference rates shall be used as ceiling rates for sanctioning of the projects
2	The DPR under the scheme has been formulated for urban areas (Statutory Towns) only
3	In case of private sector Discoms where the distribution of power supply in urban areas is with them, projects under the scheme will be implemented through a concerned State Government Agency and the assets to be created under the scheme will be owned by the State Government / State owned companies. The areas under franchisee shall be covered under the scheme subject to compliance with the terms & conditions of their respective agreements and Cooperative Societies shall also be eligible, but they would be required to submit Audited statements annually regarding the utilization under the approved project through State Cooperative Department and the concerned Discom. Further, all the projects need to be recommended by the State Level DRC.
4	In case of private sector Discoms/Distribution Franchisee/Co-operative Societies, the DPR shall be submitted to PFC by its State Govt Agency.
5	The circle/zone/Utility wise DPRs shall be prepared by the utility and recommended by Distribution Reforms Committee (DRC) at State level. To avoid duplication of works with scope already sanctioned under RAPDRP scheme, Utility shall indicate the additional work component proposed under IPDS DPRs with comparative BOQ for such R-APDRP project area.
6	BoQ for R-APDRP towns in the project area to be filled in Sheet Vol II.b and BoQ for non-RAPDRP towns to be filled in sheet Vol II.c.
7	For ERP & IT component a separate consolidated DPR shall be prepared by respective state.
8	For linking of all 33 KV or 66 KV grid substations/billing offices/Regional/Circle/Zonal offices of Discoms with optic fiber network of NOFNA, a separate and consolidated DPR shall be prepared by the respective utility in consultation with BBNL or any designated agency like BSNL, RailTel, PGCIL etc.
9	The projects shall be implemented on turn-key basis. However, in exceptional circumstances, execution on partial turnkey/departmental basis (to be proposed by utility along with respective DPR duly recommended by DRC) shall be permitted with the approval of the Monitoring Committee.
10	In either mode of implementation (turnkey/partial turnkey/departmental), the maximum time limit for completion of the project viz award and implementation shall not be beyond thirty months from date of communication of the approval of the Monitoring committee.
11	An appropriate Project Management Agency (PMA) will be appointed preferably utility-wise to assist them in project management ensuring timely implementation of the project.
12	The work(s) already executed/to be executed under R-APDRP/NEF/GOI other scheme, etc is/are not eligible under IPDS.
13	The works proposed in the DPR shall aim for meeting utility level AT&C loss reduction trajectory as finalised by MoP in consultation of state utilities (The committed AT&C loss reduction trajectory is given in Annexure-I)
14	Utility to ensure installation of bounadry meters for ring fencing of Non-RAPDRP Towns having population more than 5000.
15	The Utility will have to certify that the DPR is in line with guidlines issued by Ministry of Power/ PFC for IPDS & DRC clearance has been obtained, before the same is forwarded to PFC for consideration of sanction.
16	Utility shall ensure timely availability of any other infrastructure or facilities that are essential for implementation of IPDS works but are not in the scope of Contractor viz. land acquisition, RoW, pole location etc.
17	Utility shall provide detailed informantion regarding existintg infrastrucuture, any bottleneck in implementation of the works and the works proposed in the project to the Contractor before award of contract.
18	The cost estimates should not include any departmental overhead expenses. All such expenditures should be borne by the utility.
19	No cost escalation shall be admissible for the schemes sanctioned under IPDS. Any additional cost on any account whatsoever to complete the project shall be borne by utility.
20	Distribution Transformers procured under IPDS scheme, shall have efficiency level equivalent / better than that of three star ratings of BEE, where ever BEE standard is applicable. For other DTs, where, BEE standard is not applicable, CEA guidelines shall be followed (available on CEA web site).
21	AMI, Smart meters can be considered for deployment in the towns where SCADA has been/being established under R-APDRP.

22	For Solar Panels - only cost of Solar panels with support structure and Net-meters shall be permissible under IPDS. Utility shall bear cost of associated items.
23	Additional Guideline for DPR preparation
a	Load growth of 05 year in case of HT system & 03 years in case of LT system to be considered for proposing the DPR.
b	For replacement of existing HT & LTCT Electromechanical consumer meters (AMR compatible, open protocol) tamper proof electronic meters and replacement of whole current electromechanical consumer meters, the guidelines of CEA shall be adopted.
c	Service line for new consumers is not eligible in the scheme. In case of installation of meter pillar box or if existing service line is prone to tamper and pilferage the same shall be replaced with armored or XLPE cable for which minimum configuration should be :
	(i) Single Phase consumers: min. 4 sq.mm
	(ii) Three Phase consumers: min. 6 sq.mm
d	Installation of new Distribution Transformers in following cases:
	(i) If the length of LT feeder is more than 300 mtr then new Distribution transformer may be proposed to improve HT: LT ratio.
	(ii) If existing peak load on DT is more than 70% of its rated capacity then new DT may be proposed.
	(iii) Even if the length of LT feeder is below 300 meter but the peak load on the feeder is more than 70% of rated thermal capacity of the conductor, new DT should be installed or conductor should be replaced by higher size.
e	Provision of Isolator, HT fuse / horn gap & LA at each Distribution Transformer, if not provided earlier. Alternatively this isolator, HT fuse / horn gap fuse can be replaced with drop out fuse with On Load maintenance facility thereby reducing system interruptions.
f	Provision of LT distribution box for control and protection of outgoing LT circuits.
g	Each Distribution Transformer of 25 KVA & above shall be provided with minimum two LT feeders.
h	If the peak load on existing 11KV feeder is more than 75% of rated thermal capacity of the conductor, conductor with higher capacity may be proposed or feeder bifurcation may be proposed.
i	If peak load on existing 33/11KV S/S is more than 80% of its transformer capacity, new 33/11KV S/S may be proposed.
j	11 Kv feeder segregation may be proposed for reducing boundary metering points, fixing greater accountability and responsibility etc.
k	Ring Main Unit may be proposed in case of underground cabling area only.
l	Sectionalizer may be proposed in SCADA town only.
m	The Distribution Transformer may be provided with the capacitors of following ratings at LT side:
	(i) 100 KVA : 12 KVR
	(ii) 63 KVA : 8 KVR
	(iii) 40 KVA : 6 KVR
	(iv) 25 KVA : 4 KVR
n	Installation of ABC cables in dense, theft prone & congested areas. Both HT & LT ABC may be proposed. The capacity of ABC shall be 20% more than that of bare conductor, as thermal overloading capacity of ABC is less than Bare conductor.
o	In theft prone area and to improve HT:LT ratio, HVDS may be proposed. Total capacity of HVDS shall be higher by 20% than conventional LT S/S.
p	The following works/ items shall not be eligible for coverage under IPDS scheme:
	(i) Works already sanctioned under other schemes of Govt. of India (like R-APDRP/RGGVY/DDUGJY/NEF etc.). The projects for which any other grant / subsidy from Government of India has already been received / proposed to be received shall not be eligible under this scheme.
	(ii) AMI in the towns where SCADA is not planned under R-APDRP
	(iii) Civil works other than sub station
	(iv) Service lines to new consumers
	(v) GIS survey of consumers
	(vi) Cost of land for sub-stations
	(vii) Compensation towards right of way
	(viii) Distribution automation
	(ix) Office equipment / fixtures
	(x) Spares (other than mandatory spares prescribed by manufacturer)
	(xi) Tools and Plants (T&P)
	(xii) Vehicles
	(xiii) Salaries and Establishment Expenditure

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Detail Project Report

Declaration

This is to certify that:

- 1 Items Proposed in the DPR is for implementation in urban area (Statutory Towns only).
- 2 DPR has been prepared in line with the guidelines of IPDS issued by Ministry of Power / PFC.
- 3 The proposed DPR includes only new works & excludes other works under implementation. Works taken up under GOI scheme viz RAPDRP/RGGVY/ NEF, etc is/are not included in this DPR.
- 4 Additional items proposed in R-APDRP towns has been proposed in separate sheet Vol II.b, clearly defining earlier sanction in R-APDRP, proposed new requirement in IPDS with proper justification.
- 5 All works proposed in the DPR are as per DPR Formats issued by Nodal Agency. Any cost other than allowed by Monitoring Committee in the DPR formats shall be borne by the Utility.
- 6 The cost estimates does not include any departmental overhead expenses. All such expenditures would be borne by the utility.
- 7 Utility will henceforth, procure all meters (wherever applicable) as per guidelines/regulations issued by MoP/CEA (circular available on IPDS web portal).
- 8 Utility shall ensure timely availability of any other infrastructure or facilities that are essential for implementation of IPDS works but are not in the scope of Contractor viz. land acquisition, Row, pole location etc.
- 9 Following items have been excluded from the scope of the DPR:
 - (i) Works already sanctioned under other schemes of Govt. of India (like R-APDRP/RGGVY/DDUGJY/NEF etc.). The projects for which any other grant / subsidy from Government of India has already been received / proposed to be received shall not be eligible under this scheme.
 - (ii) AMI in the towns where SCADA is not planned under R-APDRP
 - (iii) Civil works other than sub station
 - (iv) Service lines to new consumers
 - (v) GIS survey of consumers
 - (vi) Cost of land for sub-stations
 - (vii) Compensation towards right of way
 - (viii) Distribution automation
 - (ix) Office equipment / fixtures
 - (x) Spares (other than mandatory spares prescribed by manufacturer)
 - (xi) Tools and Plants (T&P)
 - (xii) Vehicles
 - (xiii) Salaries and Establishment Expenditure
- 10 A senior level officer has been appointed by the Utility as Nodal Officer , who shall be involved from concept to commissioning of the system and co-ordinate from the Utility side for all issues related to implementation of the project. The details of Nodal Officer are given in Input Sheet.
- 11 Utility has created a dedicated team for implementation of projects at field & HQ levels to ensure smooth implementation of scheme. Details of the team are given in Input sheet.
- 12 Utility will appoint a Project Management Agency (PMA) for monitoring & ensuring timely implementation of the scheme.
- 13 Cost of consumer meters installed under R-APDRP will not be charged to consumers.
- 14 Work shall be awarded within 06 months from date of communication of the approval of the Monitoring committee. & will be completed within 24 months from date of award. In case of departmental execution, the work will be completed within 30 months from date of communication of the approval of the Monitoring committee. In either mode of implementation (turnkey/partial turnkey/departmental), the maximum time limit for completion of the project viz award and implementation shall not be beyond thirty months from date of communication of the approval of the Monitoring committee.
- 15 The item rates taken for the materials for preparation of the DPR is based on the approved latest Schedule of Rates. For the materials for which the rates are not available in Schedule of Rates, market Rates (duly approved as per Utility system/procedure) or approved schedule rate of works / stock issue rate of other utility (indicated in the cost estimate) has been taken for this purpose. The Nodal Agency will separately provide comparable costs sourced from CPSUs for major equipment for reference of the utility. These reference rates shall be used as ceiling rates for sanctioning of the projects.
- 16 No cost escalation shall be admissible for the schemes sanctioned under IPDS. Any additional cost on any account whatsoever to complete the project shall be borne by utility.
- 17 10% of the project cost as approved by monitoring committee will be arranged by utility from own source & 30% will be arranged from PFC/REC or other Fis within three months of award/start of project.
- 18 Metering of all feeders and distribution transformers including metering at all input points to the utility shall be ensured under this scheme. Utility shall ensure installation of boundary meters for ring fencing of Non-RAPDRP Towns having population more than 5000.
- 19 Projects sanctioned under R-APDRP scheme in the state/utility will continue to be implemented as per R-APDRP guidelines.
- 20 DPR has been prepared after detailed field survey, study of system & with full justification. No revision of DPR OR cost escalation will be proposed by Utility.
- 21 While formulating this DPR, consultation with the respective public representatives including Member of Parliament has been ensured.
- 22 The information and data given in this DPR are correct.
- 23 The DPR is technically & financially viable and tangible & intangible benefits will be achieved from implementation of this DPR making it bankable.
- 24 In case of private sector Discoms/Distribution Franchisee/Co-operative Societies, the project shall be implemented by(State Govt Agency).
- 25 The work will be carried out in semi Turn key basis.
- 26 Works already sanctioned under other scheme of Govt. of India (Like R-APDRP/ RGGVY/DDUGJY/NEF etc.) are not proposed under this IPDS DPR | The projects for which any other grant/subsidy from Government of India has already been received / proposed to be received shall not be eligible under this scheme.

Project Area In-charge (Govt/Govt Authorised Agency)

Signature:

Name: Sh. K.C Aggarwal
Designation: SE OP Circle,DHBVN Bhiwani

Tel. No. / Mobile No. :9812063021
Email address : gmbhiwani@gmail.com

Nodal Officer (Govt Utility Implementing Project)

Approved by:

Signature:

Name: _____ Tel. No. / Mobile No. : _____
Designation: _____ Email address : _____

Consent of District Electricity Committee (DEC)

The works covered under Integrated Power Development Scheme (IPD) Report (DPR) for strengthening of sub-transmission and distribution segregation, distribution transformer and metering etc. to ensure ur reliable energy have been discussed in the District Electricity Committee

We hereby submit our consent for approval and execution of wc Scheme for urban area of our District/OP Circle DHBVN...BHILWANA ultimate benefit of above Scheme to the urban residents.

Sr. No.	Name		Designation of DEC
1.	SH. DARAMBIR SINGH	Senior most MP	Chairman
2.	DR. SAKET KUMAR	DC	Convener
3.	SH. BISHAMBER BALMIKI	MLA	Member
4.	SH. SUKHVINDER SINGH	MLA Badhra	Member
5.	SH. GHANSHYAM SHARAF	MLA	Member
6.	SH. RAJDEEP PHOENIX	MLA	Member
7.	SH. K. C. AGGARWAL	S.E/OP	Member Secretary

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S) Detail Project
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to achieve the

Signature


G. D. Gorp



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Detail Project Report

Executive Summary

Project objective:-	This project aims at - (i) 24x7 power supply for consumers in urban area, (ii) reduction of AT&C losses as per trajectory (discom-wise) finalized by the Ministry of Power in consultation with States (iii) providing access to all urban households
Tripartite/Bipartite Agreement Date	

Brief Profile of State/Utility

Name of State	HARYANA
Name of Utility (Short Name)	DHBVN
Total Number of Utility Consumers	2942237 (Till May'15)
AT&C loss as provided by PFC in latest "Report on Performance of State Power Utilities"	
AT&C Losses	% 24.09

Project Area Profile

Name of the Project Area Circle/ Zone/ Utility)			
Nos. of towns covered			4
Nos. of Consumers in all towns covered in the project area			29779
Data for AT&C Losses Computation for Project Area (All statutory towns of the Circle/ Zone/ Utility)	Unit	Data for Previous FY 2014-15	
Energy Input	M Units	130.04	
Energy Sales	M Units	75.47	
Total Revenue Billed	Rs. Lac	5330.91	
Total Revenue Collected (excluding arrears)	Rs. Lac	4583.62	
Billing Efficiency	%	58%	
Collection Efficiency	%	86%	
AT&C Losses	%	50%	

Name of the towns covered in project area and & its In-charges

Name of Town	Town In Charge	Contact No.
City Dadri	Sh.Jagdish	9812452728
Bawani Khera	Sh.R.S.Malik	9812452760
Siwani	Sh.Joginder	9812452749
Loharu	Sh.Manoj Kumar	9812452744

Project Funding

Recommended Project Cost for Sanction	Rs. Lac	1,329.54
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Cost Item		Total Cost	Gol	PFC/ Fls	Own
Total Setup Cost	Rs.Lac	1329.54	797.72	398.86	132.95

		Base Year-0	Year-1	Year-2
Phasing of Capital Expenditure	Rs.Lac	79.77	585.00	664.77

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Detail Project Report

Background

1.1 Distribution is the most critical segment of the electricity business chain. The real challenge in the power sector today lies in efficient management of the distribution sector. Availability of a robust sub-transmission and distribution network along with adequate metering arrangements is the need of the day for efficient management of the distribution system.

1.2 Electricity is the key ingredient for accelerated economic growth and is considered vital for nation's overall development. Providing reliable and quality power supply in an efficient manner is an immediate requirement of the day. Amongst the three major layers of Power Sector i.e. Generation, Transmission and Distribution, the Distribution Sector has direct interface with the end consumers and is largely accountable for consumer satisfaction and also for flow of revenues in the entire value chain of Power Sector. Thus, Distribution Sector plays a significant role in sustenance as well as growth of the Power Sector.

1.3 There is a consistent increase in electricity demand, particularly in urban areas, due to increase in customer base, changes in lifestyle and consumption pattern, which requires continual up-gradation and creation of infrastructure for electricity distribution. However, the poor financial health of the distribution utilities has resulted in inadequate investment in the distribution network.

1.4 The Government of India has been providing support to State owned Discoms/Power Departments by extending financial assistance through various programmes. However, the State owned Discoms/Power Departments have not been able to keep pace with the growth in demand of electricity, resulting in critical gaps/missing links in the sub transmission and distribution network. The sub-transmission and distribution network has therefore become a bottleneck in ensuring reliable and quality power supply to the consumers.

1.5 Apart from bridging the gaps in the requisite distribution infrastructure, there is also a need to focus on metering of consumers. End-to-end metering is a vital need of the power sector. Effective metering of all consumers will ensure proper accounting, billing, load pattern assessment and planning of infrastructure required. It also helps in identifying high loss pockets so as to initiate remedial measures towards reduction of losses.

Keeping in view the present financial condition of Discoms/Power Deptt., GoI has launched the Integrated Power Development Scheme (IPDS) to extend financial assistance against capital expenditure to address the gaps in sub transmission & distribution network and metering in Urban areas to supplement the resources of DISCOMS/Power Deptt.

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Volume I: Project Area Details

Project Area Asset Information: Restricted to Urban area (Statutory Towns) only, to be considered under IPDS

Assets	Unit	Current Position	Proposed under IPDS
Total Number 33 kV Feeders	Nos.	3	2
Total Length of 33 kV Feeders (Overhead)	kM	56	61.2
Total Length of 33 kV Feeders (Under-ground) 5 KM For Loharu & 2 KM for BTM Bhiwani	kM	0	0
		0	0
Total Number of 220/132/33/11 kV Sub-stations feeding the Project Area	Nos.	5	2
Total Number of Power Transformers (220/132/33/11 Kv)	Nos.	11	3
Total Capacity of Power Transformers (220/132/33/11 KV)	MVA	118.3	39.9
Total Number 11 kV Feeders	Nos.	14	12
Number of Metered 11 kV Feeders	Nos.	14	12
Total Length of 11 kV Feeders (Overhead)	kM	184	0.00
Total Length of 11 kV Feeders (Under-ground)	kM	0	9.00
Total Length of LT Lines (Overhead)	kM	214	33.00
Total Length of LT Lines (Under-ground)	kM	0	0
HT/LT Ratio		1:1.16	1:0.31
Total Number of Distribution Transformers	Nos.	437	41
Total Capacity of Distribution Transformers	MVA	42.398	4.10
Total Annual Energy Input of previous FY	MUs	130.04	143.04
Current Peak Demand	MVA	45.62	50.18
Current Average Demand	MVA	42.00	46.20
		0	0.00
Please specify name of town of Project area covered under Part-A (IT) of R-APDRP, if any.		Bhiwani City	0
Please specify name of town of Project area covered under Part-A (SCADA/DMS) of R-APDRP, if any.		0	0

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Detail Project Report
Volume IIa: SUMMARY Project Cost

4.1 Summary of Project Cost (Bill of Quantities)				
SN	Particular	Unit	Qty	Project Cost from lib & lic Rs. In Lac
A	33/11 KV S/S : New	Nos	2	800.00
B	33/11 KV S/S : Additional Transformer	Nos.	1	140.00
C	33/11 KV S/S : Transformer capacity enhancement	MVA	9.70	135.80
D	Renovation & Modernisation of 33/11 kV SS	Nos.	0	0.00
E	New 33 KV new feeders/Bifurcation of feeders:	Kms	5.200	51.74
F	33 KV feeders Reconductoring/Augmentation	Kms	0	0.00
G	33 kV Line Bay Extension at EHV station	Nos	0	0.00
H	11 kV Line : New Feeder/ Feeder Bifurcation	Kms	0	0.00
I	11 kV Line : Augmentation/Reconductoring	Kms	0	0.00
J	Arial Bunched Cable	Kms	0	0.00
K	UG Cable	Kms	0	0.00
L	11 KV Bay Extension	Kms	0	0.00
M	Installation of Distribution Transformer	Nos.	0	0.00
N	Capacity enhancement of LT sub-station	Nos.	0	0.00
O	LT Line : New Feeder/ Feeder Bifurcation	Kms	0	0.00
P	LT Line : Augmentation/Reconductoring	Kms	0	0.00
Q	Capacitor Bank	Nos.	0	0.00
R	HVDS	Nos.	0	0.00
S	Metering	Nos.	6079	193.00
T	Provisioning of solar panel	Lot	9	9.00
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0.00
V	Others	Lot	0	0.00
	GRAND TOTAL			1,329.54

1,329.54

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Detail Project Report
 Project area asset detail

Annexure-2

Details of EHV Sub-stations feeding project area

SN	Name of EHV Substation	Voltage Ratio	EHV Transformer Details			Maximum Demand (MVA)	
			Rating (MVA)	Nos.	Capacity (MVA)		
1	132KV S/Stn Loharu	132/11	16	2	32	30.67	MVA
2	City Dadri	132/11 132/11	20 16	2	36	31.88	MVA
	Total		16	4	68.00	62.55	MVA

Details of 33/11 Sub-stations feeding project area

SN	Name of Substation	Voltage Ratio	HV Transformer Details			Maximum Demand	
			Rating (MVA)	Nos.	Capacity (MVA)	MVA	MVAR
1	Bawani Khera	33/11	10+4	2	14	12.19	1.22
2	SIWANI	33/11	10+10+6.3	3	26.3	21.1	6
3	Ghasola	33/11	10	1	10	9.5	3.5
	Total			6	50.3	42.79	10.72

Details of connection from EHV to 33/11 Sub-stations feeding project area

SN	From EHV Substation	To 33/11 S/S	Name of 33KV feeder	Length of feeder	Type of conductor	Average Demand (MVA)	Peak Demand (MVA)
1	132KV Hansi	33KV Bawani Khera	33KV Bawani Khera	26	0.1 Sq. In.	2.90	3.40
2	132 KV MIRAN	33KV SIWANI	Siwani	18	0.75 Sq. In.	6.30	7.70
3	132 kV S/Stn. Charkhi-II	Ghasola	Ghasola Makrana	12	3 SWG	8.00	9.00
	Total			56		17.20	20.10

Details of interconnection of 33/11 KV Sub-stations feeding project area

Sl. No.	From 33/11 S/S	To 33/11 KV S/S	Name of 33KV feeder	Length of feeder	Type of conductor	Average Demand (MVA)	Peak Demand (MVA)
1							
2			NIL				
3							

Details of 11 KV feeders emanating from 33/11 or 66/11 KV Sub-stations feeding project area

Sl. No.	From 33/11 or 66/11 KV S/S	Name & Capacity of Power Transformer	Name of 11 KV feeder	Type of conductor	Peak Demand (MVA)	Distribution Transformer Details					
						Rating (KVA)	Nos.	Capacity (KVA)			
1	B/Khera	10+4 MVA	Bawani Khera	30/50	3.4	25	22	550			
						63	10	630			
						100	16	1600			
						200	3	600			
						250	1	250			
						315	1	315			
2	Siwani	10+10+6.3=26.3 MVA	11KV SIWANI URBAN	30 mm2	3.6	25	17	425			
						63	22	1326			
						100	30	3000			
						200	3	600			
						Rupana	30 mm2	0.2	63+100	1	163
						11 kV Devsar	20 mm2	7.9	63	3	189
									100	5	500
									200	1	200
						11 kV Jhumpa	50 mm2	3	25	2	50
									63	2	126
						100	3	300			

3	Ghasola	10 MVA	Hira Chowk	50 mm2	1.6	200	1	200
						100	17	1700
				Total	19.7		160	12724

Details of 11 KV feeders emanating from EHV Sub-stations feeding project area

Sl. No.	From EHV Substation	Name & Capacity of Power Transformer	Name of 11 KV feeder	Type of conductor	Peak Demand (MVA)	Distribution Transformer Details		
						Rating (KVA)	Nos.	Capacity (KVA)
1	132KV S/Stn Loharu	T-1 10/16MVA	11KV Loharu	50/30 mm2	3.2	25/63/100/200	81	5831
			Hospital	30mm2	0.19	25/63	2	163
2	220/132 kV S/Stn. To BBMB Ch. Dadri	132/11 kV Charkhi-2 10/16 MVA	Dadri Urban	3 SWG	5.5	38x100+6x200+1x500+4x25	42	5600
			Chirya-1	3 SWG	2.6	1x200+1x100+2x25	6	350
3	220/132 kV S/Stn. To BBMB Ch. Dadri	132/11 kV Charkhi-2 16/20 MVA Old Dadri	Dadri City	3 SWG	5.3	250x4+200x4+1000x1+500x1+100x31+25x4	45	6000
			Rawalldhi	3 SWG	5.7	200x4+100x26+63x2+25x3	34	3600
			Ghikara	3 SWG	5.5	500x1+200x8+100x52+63x2+25x3	66	7500
			Water Works	6 SWG	0.57	630	1	630
					Total		277	29674

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Detail Project Report

Estimated Project Cost - Bill of Quantities

For Non R-APDRP Towns (Separate BOQ sheet to be furnished for each town)

Bill of Quantities

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Cost proposed under IPDS		Reference
					Rs. Lac	Rs. Lac	
A	33/11 KV S/S : New						
0	33 KV S/Stn. Siwani, Ghasola & Bawani Khera	Nos	3	0			Project Area Detail
1	33 KV S/Stn. Khera = 1 X 10 MVA	Nos	0	1	400.00	400.00	Annexure-A
2	33 KV S/Stn. Loharu = 1 X 10 MVA	Nos.	0	1	400.00	400.00	
			0	0	0.00	0.00	
	Sub Total		3	2	0.00	800.00	
B	33/11 KV S/S : Additional Transformer						
1	Power T/F Different Capacity	Nos.	6	0	0.00	0.00	Project Area Detail
2	33 KV S/Stn. Ghasola 1 X 10 MVA	Nos.	0	1	140.00	140.00	Annexure-A
3		Nos.	0	0	0.00	0.00	
	Sub Total		6	1	0.00	140.00	
			0	0	0.00	0.00	
C	33/11 KV S/S : Transformer capacity enhancement						
1	33 KV S/Stn. Siwani 6.3 MVA to 10 MVA = 3.7 MVA	MVA	50	4	14.00	51.80	Annexure-A
2	33 KV S/Stn. Bawani Khera 4 MVA to 10 MVA = 6 MVA	MVA	0	6	14.00	84.00	Annexure-A
3		MVA	0	0	0.00	0.00	
	Sub Total		50	10	0.00	135.80	
			0	0	0.00	0.00	
D	Renovation & Modernisation of 33/11 kV SS						
1	33 KV S/Stn. Siwani	Nos.	3	0	2.00	0.00	
2	33 KV S/Stn. Ghasola	Nos.	0	0	0.00	0.00	
3	33 KV S/Stn. Bawani Khera	Nos.	0	0	0.00	0.00	
	Sub Total		3	0	0.00	0.00	
			0	0	0.00	0.00	
E	Renovation & Modernisation of 33/11 kV SS						
1	33 KV line Loharu with 150 mm2 ACSR with 40 meter span	Kms	0	5.00	9.95	49.75	
2	33 KV line Khera with 150 mm2 ACSR with 40 meter span	Kms	0	0.20	9.95	1.99	
3		Kms	0	0.00	0.00	0.00	
	Sub Total		0	5.20	0.00	51.74	
			0	0	0.00	0.00	
F	33 KV feeders Reconductoring/Augmentation						
1	33 KV Siwani = 18 KM with with 150 mm2 ACSR	Kms	56	0	7.55	0.00	
2	33 KV Bawani Khera = 26 KM with 150 mm2 ACSR	Kms	0	0	0.00	0.00	
3	33 KV Ghasola = 12 KM with with 150 mm2 ACSR	Kms	0	0	0.00	0.00	
	Sub Total		56	0	0.00	0.00	
			0	0	0.00	0.00	
G	33 kV Line Bay Extension at EHV station						
1		Nos	0	0	0.00	0.00	
2		Nos	0	0	0.00	0.00	
3		Nos	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
			0	0	0.00	0.00	
H	11 kV Line : New Feeder/ Feeder Bifurcation						
1	HT line with 100mm2 ACSR 40 meter span on 11 meter poles	Kms	88	0	6.70	0.00	
2		Kms	0	0	0.00	0.00	
3		Kms	0	0	0.00	0.00	
	Sub Total		88	0	0.00	0.00	
			0	0	0.00	0.00	
I	11 kV Line : Augmentation/Reconductoring						
1	HT line with 100mm2 ACSR	Kms	96	0	4.66	0.00	
2		Kms	0	0	0.00	0.00	
3		Kms	0	0	0.00	0.00	
	Sub Total		96	0	0.00	0.00	
			0	0	0.00	0.00	
J	Arial Bunched Cable						
i) HT							
		Kms	0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
			0	0	0.00	0.00	
ii) LT							
	Augmentation/Reconductoring with Ariel Bunch Cable (3Cx120 mm2 + 1x70 mm2) = Length of LT line 10 KM	Kms	0	0	0.00	0.00	
		Kms	0	0	4.29	0.00	
		Kms	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
	Total		0	0	0.00	0.00	
K	UG Cable						
i) HT							
	3C x 300 mm2 XLPE Cable	Kms	0	0.00	31.64	0.00	
		Kms	0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
	Sub Total		0	0.00	0.00	0.00	
			0	0	0.00	0.00	
ii) LT							
		Kms	0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
	Total		0	9	0.00	0.00	

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Cost proposed under IPDS		Reference Annx No.
					Rs. Lac	Rs. Lac	
L	11 KV Bay Extension		0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
			0	0	0.00	0.00	
M	Installation of Distribution Transformer		0	0	0.00	0.00	
	100KVA X41No = 4.100 MVA	Nos.	0	0	2.24	0.00	
	Details in Project area assesst sheet	Nos.	421	0	0.00	0.00	
		Nos.	0	0	0.00	0.00	
	Sub Total		421	0	0.00	0.00	
			0	0	0.00	0.00	
N	Capacity enhancement of LT sub-station		0	0	0.00	0.00	
	63KVA X3No, 25KVA X2No = .239 MVA (to be augmented with 100 kVA DT each)	Nos.	0	0	0.72	0.00	
		Nos.	0	0	0.00	0.00	
		Nos.	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
			0	0	0.00	0.00	
O	LT Line : New Feeder/ Feeder Bifurcation		0	0	0.00	0.00	
	LT line with 100mm2 ACSR with 40 meter span	Kms	0	0	5.21	0.00	
		Kms	0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
			0	0	0.00	0.00	
P	LT Line : Augmentation/Reconductoring		0	0	0.00	0.00	
	LT line with 100mm2 ACSR	Kms	214	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
		Kms	0	0	0.00	0.00	
	Sub Total		214	0	0.00	0.00	
			0	0	0.00	0.00	
Q	Capacitor Bank		0	0	0.00	0.00	
		Nos.	0	0	15.30	0.00	
		Nos.	0	0	0.00	0.00	
		Nos.	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
			0	0	0.00	0.00	
R	HVDS		0	0	0.00	0.00	
		Nos.	0	0	0.00	0.00	
		Nos.	0	0	0.00	0.00	
		Nos.	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
			0	0	0.00	0.00	
S	Metering		0	0	0.00	0.00	
	i) Prepaid / smart meters in Govt. establishment	Nos.	0	117	0.12	14.14	
	ii) AML, Smart meters in the towns where SCADA being established under R-APDRP.	Nos.	0	0	0.03	0.00	
	iii) Boundary meters for ring fencing of Non-RAPDRP Towns with population more than 5000	Nos.	0	2	1.04	3.00	
	iv) AMR for feeders, Distribution transformer and high load consumers	Nos.	0	0	1.50	0.00	
	v) Consumers for existing un-metered connections, replacement of faulty meters & electro-mechanical meters	Nos.	8376	5960	0.03	175.86	
	vi) Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.	0	0	0.00	0.00	
	Sub Total		8376	6079	3.42	193.00	
			0	0	0.00	0.00	
T	Provisioning of solar panel		0	0	0.00	0.00	
	Location 1 /(Capacity)	KWe	0	4	4.00	4.00	
	Location 2 /(Capacity)	KWe	0	4	4.00	4.00	
	Location 3 /(Capacity)	KWe	0	1	1.00	1.00	
	Net-Meters	Nos.	0	0	0.00	0.00	
	Sub Total		0	9	0.00	9.00	
			0	0	0.00	0.00	
U	RMU,Sectionaliser, Auto reclosures, FPI etc.		0	0	0.00	0.00	
	i) 33 kV Line : Installation of switchable breaker/switches	Nos.	0	0	0.00	0.00	
	ii) 33 kV Line : Installation of commuicable/non-communicable FPIs (O/C&E/F)	Nos.	0	0	0.00	0.00	
	iii) 11 kV Line : Installation of RMUs/Sectionaliser alongwith aux power supply to operate sw/breaker.	Nos.	0	0	0.00	0.00	
	iv) 11 kV Line :- Installation of communicable/non communicable FPIs (O/C, E/F)	Nos.	0	0	0.00	0.00	
	v) 11 kV Line : Installation of switchable breakers alongwith aux power supply to operate sw/breaker	Nos.	0	0	0.00	0.00	
	vi) Installation of remote operable switches for breaker/switches operation for Distribution Transformer alongwith aux power supply to operate sw/breaker	Nos.	0	0	0.00	0.00	
	vii) Installation of remote operable switches for breaker/switches operation for cap bank alongwith aux power supply to operate sw/breaker .	Nos.	0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
			0	0	0.00	0.00	
V	Others		0	0	0.00	0.00	
			0	0	0.00	0.00	
	Sub Total		0	0	0.00	0.00	
	Grand Total		9313	6097		1329.54	

Note: Unit price and Total Cost are inclusive of all taxes and duties

POWER FINANCE CORPORATION LTD.
Detail Project Report
Justification / Details of Proposed Works (Bhiwani Circle)

A. Details of 33/11 KV Substation : New

Sr No.	Circle	IPDS Town	Total Number of Proposed 33 kV substation	Total Capacity of Proposed 33 kV substation (MVA)	Name of Substation	Unit Cost @Rs 40 lacs/MVA
1	Bhiwani	Loharu	1	10	Loharu	400
2	Bhiwani	Siwani	1	10	Khera	400
3	Bhiwani	Bawani Khera	0	0	NIL	0
4	Bhiwani	Dadri	0	0	NIL	0
Sub Total			2	20		800

B.33/11 KV S/S : Additional Transformer

Sr No.	Circle	IPDS Town	Total Number of Additional Power Transformer	Total Capacity of Proposed Additional Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	Bhiwani	Loharu	0	0	NIL	0
2	Bhiwani	Siwani	0	0	NIL	0
3	Bhiwani	Bawani Khera	0	0	NIL	0
4	Bhiwani	Dadri	1	10	Ghasola	140
Sub Total			1	10		140

C.33/11 KV S/S : Transformer capacity enhancement

Sr No.	Circle	IPDS Town	Existing capacity of Power Transformer	Proposed capacity of Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	Bhiwani	Loharu	0	0	NIL	0
2	Bhiwani	Siwani	6.3	3.7	Siwani	51.8
3	Bhiwani	Bawani Khera	4	6	Bawani Khera	84
4	Bhiwani	Dadri	0	0	NIL	0
Sub Total			10.3	9.7		135.8

E.New 33 KV new feeders/Bifurcation of feeders:

Sr No.	Circle	New Feeder/ Bifurcation	EHV Substation (Feeding source)	Proposed Name of the feeder (Conductor Size 150 Sqmm)	Length of Feeder (Km)	Unit Rate @ Rs 9.95 lac/Km
1	Bhiwani	New	132 kV Loharu	33 kV Loharu	5	49.75
2	Bhiwani	New	132 kV Miran	T-off Khera	0.2	1.99
3	Bhiwani	NIL			0	0
4	Bhiwani	NIL			0	0
Sub Total					5.2	51.74

F. 33 KV feeders Reconductoring/Augmentation

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 150 Sqmm)	Existing size of conductor	Length of Feeder (Km)	Unit Rate @ 7.55 Lac/Km
1	Loharu	NIL				0	0
2	Siwani	Augmentation/ Reconductoring	132 kV Miran	33 kV Siwani	100 mm ²	18	135.9
3	Bawani Khera	Augmentation/ Reconductoring	132 kV Hansi	33 kV Bawani Khera	80 mm ²	26	196.3
4	Dadri	Augmentation/ Reconductoring	132 kV Ch. Dadri-II	33 kV Ghasola	80 mm ²	12	90.6
Sub Total						56	422.8

G. 11 kV Line : New Feeder/ Feeder Bifurcation

Sr No.	IPDS Town	New Feeder/ Bifurcation	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Length of Feeder (Km)	Unit Rate @ 6.70 Lac/ Km
1	Loharu	New	132 kV Loharu	Loco Colony (With UG Cable)	0	0
2	Siwani	New	132 kV Miran	Rupana Pump House	5	33.5
3	Siwani	New	132 kV Miran	Jhupa	10	67
4	Siwani	New	132 kV Miran	Kalod AP	2.5	16.75
5	Siwani	New	132 kV Miran	Khera DS	0.5	3.35
6	Bawani Khera	New Feeder/ Bifurcation	132 kV Hansi	Sumra Khera	8	53.6
7	Bawani Khera	New Feeder/ Bifurcation	132 kV Hansi	Talu	8	53.6
8	Bawani Khera	New Feeder/ Bifurcation	132 kV Hansi	Sumra Khera AP	5	33.5
9	Dadri	New Feeder/ Bifurcation	132 kV Ch. Dadri-II	Prem Nagar	2	13.4
10	Dadri	New Feeder/ Bifurcation	132 kV Ch. Dadri-II	Charkhi Gate	5	33.5
11	Dadri	New Feeder/ Bifurcation	132 kV Ch. Dadri-II	Champapuri	3	20.1
12	Dadri	New Feeder/ Bifurcation	132 kV Ch. Dadri-II	Bus Stand Road	1	6.7

Sub Total	50	335
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H.11 kV Line : Augmentation/Reconductoring

Sr No.	IPDS Town	Augmentation/Reconductoring	EHV Substation (Feeding Source)	Name of the feeder Conductor Size 100 Sqmm)	Existing size of conductor	Length of Feeder (Km)	Unit Rate @ 4.66 lac/Km
1	Loharu	Augmentation/Reconductoring	132 kV Loharu	Loharu	80/50/30 mm2	22	102.52
2	Loharu	Augmentation/Reconductoring	132 kV Loharu	Hospital	30 mm2	3	13.98
3	Siwani	Augmentation/Reconductoring	132 kV Miran	Siwani	50 mm2	12	55.92
4	Bawani Khera	Augmentation/Reconductoring	132 kV Hansi	Bawani Khera	50 mm2	20	93.2
5	Dadri	0				0	0
Sub Total						57	265.62

I. Arial Bunched Cable (LT)

Sr No.	IPDS Town	Size of Cable (3x120sqmm+1x70 sqmm)	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 4.93 lac /Km	
1	Loharu	3Cx120 +1x70 Sqmm	132 kV Loharu	Loharu	10	49.3	
2	Siwani	NIL			0	0	
3	Bawani Khera	NIL			0	0	
4	Dadri	NIL			0	0	
Sub Total						10	49.3

J.UG Cable

Sr No.	IPDS Town	Size of Cable	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 31.64 Lacs/KM	
1	Loharu	3x300Sqmm	132 kV Loharu	Loco Colony (Proposed)	3	94.92	
2	Siwani	3x300Sqmm	132 kV Miran	Devsar	3	94.92	
3	Bawani Khera	3x300Sqmm	132 kV Hansi	Sumra Khera	0.8	25.312	
4	Bawani Khera	3x300Sqmm	132 kV Hansi	Talu	0.4	12.656	
5	Bawani Khera	3x300Sqmm	132 kV Hansi	Sumra Khera AP	0.8	25.312	
6	Dadri	3x300Sqmm	132 kV Ch. Dadri-II	Prem Nagar	1.1	34.804	
Sub Total						9.1	287.924

K. Installation of Distribution Transformer

Sr No.	Circle	Feeding Souce (EHV Substation)	Name of 11 kV Feeder	Proposed 100 KVA DTs (Nos)	Unit Rate for 100 KVA DT @ 2.24 lac/	Proposed 200 KVA DTs (Nos)	Unit Rate for 200 KVA
1	Bhiwani	132 kV Loharu	Loharu	6	13.44	0	0
2	Bhiwani	132 kV Miran	Siwani	6	13.44	0	0
3	Bhiwani	132 kV Hansi	Bawani Khera	5	11.2	0	0
4	Bhiwani	132 kV Ch. Dadri-II	All	24	53.76	0	0
Sub Total				41	91.84	0	0
Total Cost				91.84			

List of Govt Eshtablishments where Prepaid Meter are to be installed.

Sr No.	IPDS Town	Name of Govt Eshtablishment	Total Nos of Prepaid meter Requirement	Unit rate @ Rs 0.12 Lac / meter
1	Loharu	ANIMAL OFFICER	1	0.12
2	Loharu	ASST. TREASURY	1	0.12
3	Loharu	B D OFFICE	1	0.12
4	Loharu	D S P OFFICE	1	0.12
5	Loharu	E O CUM SECRETARY MC	1	0.12
6	Loharu	FORESHAT OFFICE	1	0.12
7	Loharu	GENERAL MANGER	1	0.12
8	Loharu	HARYANA ROADWAYS	1	0.12
9	Loharu	HEAD MASTER GOVT GIR	1	0.12
10	Loharu	HISAR KOPARETEV BANK	1	0.12
11	Loharu	KOPARETEVA MARKETING	1	0.12
12	Loharu	M C OFFICE	1	0.12
13	Loharu	POLICE STATION	1	0.12
14	Loharu	PRINCIPAL	1	0.12
15	Loharu	PRINCIPAL HIGH SINGH	1	0.12

16	Loharu	S D O B&R REST HOUSE	1	0.12
17	Loharu	S D O P W D B&R	1	0.12
18	Loharu	S D O P W D B&R REST	1	0.12
19	Loharu	S.D.O. (C) COURT	1	0.12
20	Loharu	SDE WS 2 SANITATION	1	0.12
21	Loharu	SDJM COURT COMPLEX	1	0.12
22	Loharu	SDO AGRICULTUREL	1	0.12
23	Loharu	SEC M C LOHARU	15	1.8
24	Loharu	SEC N A C	23	2.76
25	Loharu	SEC NAGAR PALIKA	4	0.48
26	Loharu	SECRETARY ZILA	1	0.12
27	Loharu	SENIOR MEDICAL OFFICER	1	0.12
28	Loharu	SUB POST MASTER	1	0.12
29	Loharu	SUBDIVISN EDUCATION	1	0.12
30	Loharu	SUPERITENDENT	1	0.12
31	Loharu	T C P	1	0.12
32	Loharu	TAHASILDAR TAHASIL	1	0.12
33	Loharu	VICE PRINCIPLE V E I	1	0.12
34	Loharu	WOOL GREEDING CENTER	1	0.12
35	Siwani	SDM Office	1	0.12
36	Siwani	Tahsil Office	1	0.12
37	Siwani	Court Complex	1	0.12
38	Siwani	School	2	0.24
39	Siwani	College	1	0.12
40	Siwani	Hospital	1	0.12
41	Bawani Khera	Aria inspector	1	0.12
42	Bawani Khera	BDO B/Khera	1	0.12
43	Bawani Khera	COP	1	0.12
44	Bawani Khera	F.C.I	1	0.12
45	Bawani Khera	GIRLS HIGH SCHOOL	1	0.12
46	Bawani Khera	Govt. Girls High School	1	0.12
47	Bawani Khera	Head Master Govt. PRIMary	1	0.12
48	Bawani Khera	Head Master Govt. PRIMary	1	0.12
49	Bawani Khera	Incharge Vetenary Hospital	1	0.12
50	Bawani Khera	J.T.O. B/Khera	1	0.12
51	Bawani Khera	Land morges	1	0.12
52	Bawani Khera	M.C. Bawani khera	1	0.12
53	Bawani Khera	M.C. Bawani khera	1	0.12
54	Bawani Khera	M.C. Bawani khera	1	0.12
55	Bawani Khera	M.C. Bawani khera	1	0.12
56	Bawani Khera	M.C. Bawani khera	1	0.12
57	Bawani Khera	M.C. Bawani khera	1	0.12
58	Bawani Khera	M.C. Bawani khera	1	0.12
59	Bawani Khera	Medical officer	1	0.12
60	Bawani Khera	Post master	1	0.12
61	Bawani Khera	S.D.O Huda electric	1	0.12
62	Bawani Khera	S.D.O P/Health	1	0.12
63	Bawani Khera	S.D.O P/Health	1	0.12
64	Bawani Khera	S.D.O P/Health	1	0.12
65	Bawani Khera	S.H.O B/Khera	1	0.12
66	Bawani Khera	SDO B&R B/KHERA	1	0.12

67	Bawani Khera	Tehsil office	1	0.12
68	Dadri	SDO PH DADRI	2	0.24
69	Dadri	BDO IST BLOCK	1	0.12
70	Dadri	PRESIDENT AGRUCULTUR	1	0.12
71	Dadri	CIVIL HOSPITAL DADRI	1	0.12
72	Dadri	SUB TREASURY OFFICE	1	0.12
73	Dadri	SECT MUNICIPAL COMMT	1	0.12
74	Dadri	SDM SAHALL MINI FEET	1	0.12
75	Dadri	ASSISTT REGUSTRAR CO	1	0.12
76	Dadri	SUB HEALTH CENTER	1	0.12
Sub Total			117	14.04

Provision for Solar Panel

Details of 1 kVe Solar panel to be furnished by Town against Proposed New 33 kV Substation

Unit Cost @ Rs 1 Lac per KVE

9.00

T. Switching Substation (33 kV and 11 kV)

Sr No.	IPDS Town	Name of Substation	Voltage Level (33 kv/ 0.4 kv or 11 kv/0.4 kv)	Unit Rate For 33 kv level	Unit Rate For 11 kv level
	NIL				

POWER FINANCE CORPORATION LTD.

Detail Project Report of Loharu

Estimated Project Cost - Bill of Quantities

For Non R-APDRP Towns (Separate BOQ sheet to be furnished for each town)

Bill of Quantities

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS	Reference
					Rs. Lac	Rs. Lac	Annx No.
A	33/11 KV S/S : New						
1	33 KV S/Stn. Loharu = 1 X 10 MVA	Nos	-	1	400.00	400.00	Annex-Loh
2		Nos	-	0	-	-	
3		Nos.	-	0	-	-	
	Sub Total			0		400	
B	33/11 KV S/S : Additional Transformer						
1		Nos.		0	-	-	
2		Nos.	-	0	-	-	
3		Nos.	-	0	-	-	
	Sub Total			0		0	
C	33/11 KV S/S : Transformer capacity enhancement						
1		MVA	-	0	-	-	
2		MVA	-	0	-	-	
3		MVA	-	0	-	-	
	Sub Total			0		0	
D	Renovation & Modernisation of 33/11 kV SS						
1		Nos.	-	0	-	-	
2		Nos.	-	0	-	-	
3		Nos.	-	0	-	-	
	Sub Total			0		0	
E	New 33 KV new feeders/Bifurcation of feeders:						
1	33 KV line Loharu with 150 mm ² ACSR with 40 meter span	Kms	-	5	9.95	49.75	Annex-Loh
2		Kms	-	0	-	-	
3		Kms	-	0	-	-	
	Sub Total			5		49.75	
F	33 KV feeders Reconductoring/Augmentation						
1		Kms	-	0	-	-	
2		Kms	-	0	-	-	
3		Kms	-	0	-	-	
	Sub Total			0		0	

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS	Reference
					Rs. Lac	Rs. Lac	Annx No.
G	33 kV Line Bay Extension at EHV station						
1		Nos	-	0	-	-	
2		Nos	-	0	-	-	
3		Nos	-	0	-	-	
	Sub Total		0	0		0	
H	11 kV Line : New Feeder/ Feeder Bifurcation						
1	HT line with 100mm2 ACSR 40 meter span on 11 meter poles	Kms	-				
2		Kms					
3		Kms					
	Sub Total		0				
I	11 kV Line : Augmentation/Reconductoring						
1	HT line with 100mm2 ACSR	Kms	34.00				
2		Kms					
3		Kms					
	Sub Total		34				
J	Arial Bunched Cable						
i)	HT						
		Kms	-				
		Kms					
		Kms					
	Sub Total		0				
ii)	LT						
	Augmentation/Reconductoring with Ariel Bunch Cable (3Cx120 mm2 + 1x70 mm2) = Length of LT line 10 KM	Kms	0				
		Kms					
		Kms					
	Sub Total		0				
	Total		0				
K	UG Cable						
i)	HT						
	3C x 300 mm2 XLPE Cable	Kms	0				
		Kms					
		Kms					
	Sub Total		0				
ii)	LT						
		Kms	0				
		Kms					
		Kms					
	Sub Total		0				
	Total		0				
L	11 KV Bay Extension						
		Kms	-				

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS	Reference
					Rs. Lac	Rs. Lac	Annx No.
		Kms					
		Kms					
	Sub Total		0				
M	Installation of Distribution Transformer						
	100KVA X6No. = .600 MVA	Nos.	83				
		MVA					
		Nos.					
	Sub Total		83				
N	Capacity enhancement of LT sub-station						
	63KVA X3No, 25KVA X2No = .239 MVA(to be augmented with 100 kVA DT each)	Nos.	0				
		Nos.					
		Nos.					
	Sub Total		0				
O	LT Line : New Feeder/ Feeder Bifurcation						
	LT line with 100mm2 ACSR with 40 meter span	Kms					
		Kms					
		Kms					
	Sub Total		0				
P	LT Line : Augmentation/Reconductoring						
	LT line with 100mm2 ACSR	Kms	25				
		Kms					
		Kms					
	Sub Total		25				
Q	Capacitor Bank						
		Nos.	0				
		Nos.					
		Nos.					
	Sub Total		0				
R	HVDS						
		Nos.	0				
		Nos.					
		Nos.					
	Sub Total		0				
S	Metering						
	i) Prepaid / smart meters in Govt. establishment	Nos.	0	73	0.12	8.86	Annex-Loh
	ii) AMI, Smart meters in the towns where SCADA being established under R-APDRP.	Nos.	0	0	-	-	
	iii) Boundary meters for ring fencing of Non-RAPDRP Towns with population more than 5000	Nos.	0	2	1.50	3.00	Annex-Loh

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS	Reference
					Rs. Lac	Rs. Lac	Annx No.
iv)	AMR for feeders, Distribution transformer and high load consumers	Nos.	0	0	1.50	-	
v)	Consumers for existing un-metered connections, replacement of faulty meters & electro-mechanical meters	Nos.	0	2204	0.03	63.18	Annex-Loh
vi)	Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.	0	0	-	-	
	Sub Total		0	2279.000	3.150	75.04	
T	Provisioning of solar panel						
	33 kV S/Stn. Loharu (Proposed)	KWe		1	1	1	Annex-Loh
	SDO Office	KWe		1	1	1	Annex-Loh
	Location 3 /(Capacity)	KWe				-	
	Net-Meters	Nos.				-	
	Sub Total		0	2		2	
U	RMU,Sectionaliser, Auto reclosures, FPI etc.						
i)	33 kV Line : Installation of switchable breaker/switches	Nos.					
ii)	33 kV Line : Installation of commnuicable/non-communicable FPIs (O/C&E/F)	Nos.					
iii)	11 kV Line : Installation of RMUs/Sectionaliser alongwith aux power supply to operate sw/breaker.	Nos.					
iv)	11 kV Line :- Installation of communicable/non communicable FPIs (O/C,E/F)	Nos.					
v)	11 kV Line : Installation of switchable breakers alongwith aux power supply to operate sw/breaker	Nos.					
vi)	Installation of remote operable switches for breaker/switches operation for Distribution Transformer alongwith aux power supply to operate sw/breaker	Nos.					
vii)	Installation of remote operable switches for breaker/switches operation for cap bank alongwith aux power supply to operate sw/breaker .	Nos.					
	Sub Total		0	0		0	
V	Others						
	Sub Total		0	0		0	
	Grand Total					526.79	

Note: Unit price and Total Cost are inclusive of all taxes and duties

POWER FINANCE CORPORATION LTD.
Detail Project Report
Justification / Details of Proposed Works (Loharu)

A. Details of 33/11 KV Substation : New

Sr No.	Circle	IPDS Town	Total Number of Proposed 33 kV substation	Total Capacity of Proposed 33 kV substation (MVA)	Name of Substation	Unit Cost @Rs 40 lacs/MVA
1	Bhiwani	Loharu	1	10	Loharu	400
			0	0		0
			0	0		0
			0	0		0
Sub Total			1	10		400

B.33/11 KV S/S : Additional Transformer

Sr No.	Circle	IPDS Town	Total Number of Additional Power Transformer	Total Capacity of Proposed Additional Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
	NIL		0	0		0
			0	0		0
			0	0		0
			0	0		0
Sub Total			0	0		0

C.33/11 KV S/S : Transformer capacity enhancement

Sr No.	Circle	IPDS Town	Existing capacity of Power Transformer	Proposed capacity of Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
	NIL		0	0		0
			0	0		0
			0	0		0
			0	0		0
Sub Total			0	0		0

E.New 33 KV new feeders/Bifurcation of feeders:

Sr No.	Circle	New Feeder/ Bifurcation	EHV Substation (Feeding source)	Proposed Name of the feeder (Conductor Size 150 Sqmm)	Length of Feeder (Km)	Unit Rate @ Rs 9.95 lac/Km
	Bhiwani	New	132 kV Loharu	33 kV Loharu	5	49.75
					0	0
					0	0
Sub Total					5	49.75

F. 33 KV feeders Reconductoring/Augmentation

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 150 Sqmm)	Existing size of conductor	Length of Feeder (Km)	Unit Rate @ 7.55 Lac/Km
	NIL					0	0
						0	0
						0	0
Sub Total						0	0

G. 11 kV Line : New Feeder/ Feeder Bifurcation

Sr No.	IPDS Town	New Feeder/ Bifurcation	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Length of Feeder (Km)	Unit Rate @ 6.70 Lac/ Km
1	Loharu	New	132 kV Loharu	Loco Colony (With UG Cable)	0	0
					0	0
					0	0
Sub Total						0

H.11 kV Line : Augmentation/Reconductoring

Sr No.	IPDS Town	Augmentation/Reconductoring	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Existing size of conductor	Length of	Unit Rate @ 4.66 lac/Km
1	Loharu	Augmentation/Reconductoring	132 kV Loharu	Loharu	80/50/30 mm2	22	102.52
2	Loharu	Augmentation/Reconductoring	132 kV Loharu	Hospital	30 mm2	3	13.98
						0	0
Sub Total						25	116.50

I. Arial Bunched Cable (LT)

Sr No.	IPDS Town	Size of Cable (3Cx120 +1x70 Sqmm)	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 4.93 lac /Km
1	Loharu	3Cx120 +1x70 Sqmm	132 kV Loharu	Loharu	10	49.3
					0	0
					0	0
Sub Total					10	49.3

J.UG Cable

Sr No.	IPDS Town	Size of Cable	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 31.64 Lacs/KM
1	Loharu	3x300Sqmm	132 kV Loharu	Loco Colony (Proposed)	3	94.92
					0	0
					0	0
Sub Total					3	94.92

K. Installation of Distribution Transformer

Sr No.	Circle	Feeding Souce (EHV Substation)	Name of 11 kV Feeder	Proposed 100 KVA DTs (Nos)	Unit Rate for 100 KVA DT @ 2.24 lac/ DT	Proposed 200 kVA DTs (Nos)	Unit Rate for 200 KVA DT @3.97
1	Bhiwani	132 kV Loharu	Loharu	6	13.44	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
Sub Total				6	13.44	0	0
Total Cost				13.44			

List of Govt Eshtablishments where Prepaid Meter are to be installed.

Sr No.	IPDS Town	Name of Govt Eshtablishment	Total Nos of Prepaid meter Requirement	Unit rate @ Rs 0.12 Lac / meter
1	Loharu	ANIMAL OFFICER	1	0.12
2	Loharu	ASST. TREASURY	1	0.12
3	Loharu	B D OFFICE	1	0.12
4	Loharu	D S P OFFICE	1	0.12
5	Loharu	E O CUM SECRATARY MC	1	0.12
6	Loharu	FORESHAT OFFICE	1	0.12
7	Loharu	GENERAL MANGER	1	0.12
8	Loharu	HARYANA ROADWAYS	1	0.12
9	Loharu	HEAD MASTER GOVT GIR	1	0.12
10	Loharu	HISAR KOPARETEV BANK	1	0.12
11	Loharu	KOPARETEVA MARKETING	1	0.12
12	Loharu	M C OFFICE	1	0.12
13	Loharu	POLICE STATION	1	0.12
14	Loharu	PRINCIPAL	1	0.12
15	Loharu	PRINCIPAL HIGH SINGH	1	0.12
16	Loharu	S D O B&R REST HOUSE	1	0.12
17	Loharu	S D O P W D B&R	1	0.12
18	Loharu	S D O P W D B&R REST	1	0.12
19	Loharu	S.D.O. (C) COURT	1	0.12
20	Loharu	SDE WS 2 SANITATION	1	0.12

21	Loharu	SDJM COURT COMPLEX	1	0.12
22	Loharu	SDO AGRICULTUREL	1	0.12
23	Loharu	SEC M C LOHARU	15	1.8
24	Loharu	SEC N A C	23	2.76
25	Loharu	SEC NAGAR PALIKA	4	0.48
26	Loharu	SECRETARY ZILA	1	0.12
27	Loharu	SENIOR MEDICAL OFFICER	1	0.12
28	Loharu	SUB POST MASTER	1	0.12
29	Loharu	SUBDIVISN EDUCATION	1	0.12
30	Loharu	SUPERITENDENT	1	0.12
31	Loharu	T C P	1	0.12
32	Loharu	TAHASILDAR TAHASIL	1	0.12
33	Loharu	VICE PRINCIPLE V E I	1	0.12
34	Loharu	WOOL GREEDING CENTER	1	0.12
Sub Total			73	8.76

Provision for Solar Panel

Details of 1 kVe Solar panel to be furnished by Town against Proposed New 33 kV Substation

Unit Cost @ Rs 1 Lac per KVE

2

T. Switching Substation (33 kV and 11 kV)

Sr No.	IPDS Town	Name of Substation	Voltage Level (33 kV/ 0.4 kv or 11 kV/0.4 kv)	Unit Rate For 33 kV level	Unit Rate For 11 kV level
	NIL				

POWER FINANCE CORPORATION LTD.

Detail Project Report of Siwani

Estimated Project Cost - Bill of Quantities

For Non R-APDRP Towns (Separate BOQ sheet to be furnished for each town)

Bill of Quantities

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS
					Rs. Lac	Rs. Lac
A	33/11 KV S/S : New					
1	33 kV S/Stn. Siwani (Existing)	Nos	1	1	400.00	400.00
2	33 kV S/Stn. Khera (1x10MVA) Proposed	Nos				-
3		Nos.				-
	Sub Total		1	1		400
B	33/11 KV S/S : Additional Transformer					
1		Nos.	3.00	0		
2		Nos.				
3		Nos.				
	Sub Total		3	0		0
C	33/11 KV S/S : Transformer capacity enhancement					
1	33 KV S/Stn. Siwani 6.3 MVA to 10 MVA = 4 MVA	MVA	26.30	3.70	14.00	51.80
2		MVA				-
3		MVA				
	Sub Total		26.30	3.70		51.80
D	Renovation & Modernisation of 33/11 kV SS					
1	33 KV S/Stn. Siwani	Nos.	1			
2		Nos.				
3		Nos.				
	Sub Total		1			
E	New 33 KV new feeders/Bifurcation of feeders:					
1		Kms	0			-
2		Kms		0.2	9.95	1.99
3		Kms				-
	Sub Total		0	0		1.99

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS
					Rs. Lac	Rs. Lac
F	33 KV feeders Reconductoring/Augmentation					
1	33 KV Siwani = 18 KM with with 150 mm2 ACSR	Kms	18.00			
2		Kms				
3		Kms				
	Sub Total		18			
G	33 kV Line Bay Extension at EHV station					
1		Nos	-			
2		Nos				
3		Nos				
	Sub Total		0			
H	11 kV Line : New Feeder/ Feeder Bifurcation					
1	HT line with 100mm2 ACSR 40 meter span on 11 meter poles	Kms	-			
2		Kms				
3		Kms				
	Sub Total		0			
I	11 kV Line : Augmentation/Reconductoring					
1	HT line with 100mm2 ACSR	Kms	24.00			
2		Kms				
3		Kms				
	Sub Total		24			
J	Arial Bunched Cable					
i)	HT					
		Kms	-			
		Kms				
		Kms				
	Sub Total		0			
ii)	LT					
	Augmentation/Reconductoring with Ariel Bunch Cable (3Cx120 mm2 + 1x70 mm2)	Kms	0			
		Kms				
		Kms				
	Sub Total		0			
	Total		0			
K	UG Cable					

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS
					Rs. Lac	Rs. Lac
i)	HT					
	3C x 300 mm2 XLPE Cable	Kms	0			
		Kms				
		Kms				
	Sub Total		0			
ii)	LT					
		Kms				
		Kms				
		Kms				
	Sub Total		0			
	Total		0			
L	11 KV Bay Extension					
		Kms	-			
		Kms				
		Kms				
	Sub Total		0			
M	Installation of Distribution Transformer					
	100KVA X6No = 0.600 MVA	Nos.	88			
		Nos.				
		Nos.				
	Sub Total		88			
N	Capacity enhancement of LT sub-station					
		Nos.	0			
		Nos.				
		Nos.				
	Sub Total		0			
O	LT Line : New Feeder/ Feeder Bifurcation					
	LT line with 100mm2 ACSR with 40 meter span	Kms				
		Kms				
		Kms				
	Sub Total		0			

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS
					Rs. Lac	Rs. Lac
P	LT Line : Augmentation/Reconductoring					
	LT line with 100mm ² ACSR	Kms	15			
		Kms				
		Kms				
	Sub Total		15			
Q	Capacitor Bank					
		Nos.	0			
		Nos.				
		Nos.				
	Sub Total		0			
R	HVDS					
		Nos.	0			
		Nos.				
		Nos.				
	Sub Total		0			
S	Metering					
i)	Prepaid / smart meters in Govt. establishment	Nos.	0	7	0.12	0.84
ii)	AMI, Smart meters in the towns where SCADA being established under R-APDRP.	Nos.	0	0		
iii)	Boundary meters for ring fencing of Non-RAPDRP Towns with population more than 5000	Nos.	0	0	-	-
iv)	AMR for feeders, Distribution transformer and high load consumers	Nos.				
v)	Consumers for existing un-metered connections, replacement of faulty meters & electro-mechanical meters	Nos.	4776	1967	0.03	59.02
vi)	Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.				
	Sub Total		4776.00	1974.00	0.15	59.87
T	Provisioning of solar panel					
	33 kV S/Stn. Siwani	KWe		1	1	1
	SDO Office	KWe		1	1	1
	33 kV S/Stn. Khera (Proposed)	KWe		1	1	1
	Net-Meters	Nos.				

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS
					Rs. Lac	Rs. Lac
	Sub Total		0	3		3
U	RMU,Sectionaliser, Auto reclosures, FPI etc.					
i)	33 kV Line : Installation of switchable breaker/switches	Nos.				
ii)	33 kV Line : Installation of commnuicable/non-communicable FPIs (O/C&E/F)	Nos.				
iii)	11 kV Line : Installation of RMUs/Sectionaliser alongwith aux power supply to operate sw/breaker.	Nos.				
iv)	11 kV Line :- Installation of communicable/non communicable FPIs (O/C,E/F)	Nos.				
v)	11 kV Line : Installation of switchable breakers alongwith aux power supply to operate sw/breaker	Nos.				
vi)	Installation of remote operable switches for breaker/switches operation for Distribution Transformer alongwith aux power supply to operate sw/breaker	Nos.				
vii)	Installation of remote operable switches for breaker/switches operation for cap bank alongwith aux power supply to operate sw/breaker .	Nos.				
	Sub Total		0	0		0
V	Others					
	Sub Total		0	0		0
	Grand Total					516.66

Note: Unit price and Total Cost are inclusive of all taxes and duties

POWER FINANCE CORPORATION LTD.
Detail Project Report
Justification / Details of Proposed Works (Siwani)

A. Details of 33/11 KV Substation : New

Sr No.	Circle	IPDS Town	Total Number of Proposed 33 kV substation	Total Capacity of Proposed 33 kV substation (MVA)	Name of Substation	Unit Cost @Rs 40 lacs/MVA
1	Bhiwani	Siwani	1	10	Khera	400
			0	0		0
			0	0		0
			0	0		0
Sub Total			1	10		400

B.33/11 KV S/S : Additional Transformer

Sr No.	Circle	IPDS Town	Total Number of Additional Power Transformer	Total Capacity of Proposed Additional Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
	NIL		0	0		0
			0	0		0
			0	0		0
			0	0		0
Sub Total			0	0		0

C.33/11 KV S/S : Transformer capacity enhancement

Sr No.	Circle	IPDS Town	Existing capacity of Power Transformer	Proposed capacity of Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	Bhiwani	Siwani	6.3	3.7	Siwani	51.8
			0	0		0
			0	0		0
			0	0		0
Sub Total			6.3	3.7		51.8

E.New 33 KV new feeders/Bifurcation of feeders:

Sr No.	Circle	New Feeder/ Bifurcation	EHV Substation (Feeding source)	Proposed Name of the feeder (Conductor Size 150 Sqmm)	Length of Feeder (Km)	Unit Rate @ Rs 9.95 lac/Km
1	Bhiwani	New	132 kV Miran	T-off Khera	0.2	1.99
					0	0
					0	0
Sub Total						1.99

F. 33 KV feeders Reconductoring/Augmentation

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 150 Sqmm)	Existing size of conductor	Length of Feeder (Km)	Unit Rate @ 7.55 Lac/Km
1	Siwani	Augmentation/ Reconductoring	132 kV Miran	33 kV Siwani	100 mm2	18	135.9
						0	0
						0	0
Sub Total							135.9

G. 11 kV Line : New Feeder/ Feeder Bifurcation

Sr No.	IPDS Town	New Feeder/ Bifurcation	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Length of Feeder (Km)	Unit Rate @ 6.70 Lac/ Km
1	Siwani	New	132 kV Miran	Rupana Pump House	5	33.5
2	Siwani	New	132 kV Miran	Jhupa	10	67
3	Siwani	New	132 kV Miran	Kalod AP	2.5	16.75
4	Siwani	New	132 kV Miran	Khera DS	0.5	3.35
Sub Total						120.6

H.11 kV Line : Augmentation/Reconductoring

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Existing size of conductor	Length of	Unit Rate @ 4.66 lac/Km
1	Siwani	Augmentation/ Reconductoring	132 kV Miran	Siwani	50 mm ²	12	55.92
						0	0
						0	0
Sub Total						12	55.92

I. Arial Bunched Cable (LT)

Sr No.	IPDS Town	Size of Cable (3Cx120 +1x70 Sqmm)	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 4.93 lac /Km	
	NIL				0	0	
					0	0	
					0	0	
Sub Total						0	0

J.UG Cable

Sr No.	IPDS Town	Size of Cable	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 31.64 Lacs/KM	
1	Siwani	3x300Sqmm	132 kV Miran	Devsar	3	94.92	
					0	0	
					0	0	
Sub Total						3	94.92

K. Installation of Distribution Transformer

Sr No.	Circle	Feeding Souce (EHV Substation)	Name of 11 kV Feeder	Proposed 100 KVA DTs (Nos)	Unit Rate for 100 KVA DT @ 2.24 lac/ DT	Proposed 200 kVA DTs (Nos)	Unit Rate for 200 KVA DT @3.97
1	Bhiwani	132 kV Miran	Siwani	6	13.44	0	0
					0		0
					0		0
					0		0
					0		0
Sub Total				6	13.44	0	0
				Total Cost	13.44		

List of Govt Eshtablishments where Prepaid Meter are to be installed.

Sr No.	IPDS Town	Name of Govt Eshtablishment	Total Nos of Prepaid meter Requirement	Unit rate @ Rs 0.12 Lac / meter
1	Siwani	SDM Office	1	0.12
2	Siwani	Tahsil Office	1	0.12
3	Siwani	Court Complex	1	0.12
4	Siwani	School	2	0.24
5	Siwani	College	1	0.12
6	Siwani	Hospital	1	0.12
Sub Total			7	0.84

Provision for Solar Panel

Details of 1 kVe Solar panel to be furnished by Town against Proposed New 33 kV Substation

Unit Cost @ Rs 1 Lac per KVE

3.00

T. Switching Substation (33 kV and 11 kV)

Sr No.	IPDS Town	Name of Substation	Voltage Level (33 kV/ 0.4 kv or 11 kV/0.4 kv)	Unit Rate For 33 kV level	Unit Rate For 11 kV level
	NIL				

For Non R-APDRP Towns (Separate BOQ sheet to be furnished for each town)

Bill of Quantities

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Cost	
					Unit Price Rs. Lac	proposed under IPDS Rs. Lac
A	33/11 KV S/S : New					
1		Nos	1	0	400.00	-
2		Nos				-
3		Nos.				-
	Sub Total		1	0		0
B	33/11 KV S/S : Additional Transformer					
1		Nos.	2	0	0	-
2		Nos.				
3		Nos.				
	Sub Total		2	0		0
C	33/11 KV S/S : Transformer capacity enhancement					
1	33 KV S/Stn. Bawani Khera 4 MVA to 10 MVA = 6 MVA	MVA	14.00	6	14.00	84.00
2		MVA				-
3		MVA				
	Sub Total		14	6		84
D	Renovation & Modernisation of 33/11 kV SS					
1	33 KV S/Stn. Bawani Khera	Nos.	1			
2		Nos.				
3		Nos.				
	Sub Total		1			
E	New 33 KV new feeders/Bifurcation of feeders:					
1		Kms	-			
2		Kms				
3		Kms				
	Sub Total		0			
F	33 KV feeders Reconductoring/Augmentation					
1	33 KV Bawani Khera = 26 KM with 150 mm2 ACSR	Kms	26.00			
2		Kms				
3		Kms				
	Sub Total		26			
G	33 kV Line Bay Extension at EHV station					
1		Nos				
2		Nos				
3		Nos				
	Sub Total		0			
H	11 kV Line : New Feeder/ Feeder Bifurcation					
1	HT line with 100mm2 ACSR 40 meter span on 11 meter poles	Kms	-			
2		Kms				
3		Kms				
	Sub Total		0			
I	11 kV Line : Augmentation/Reconductoring					
1	HT line with 100mm2 ACSR	Kms	38.00			
2		Kms				
3		Kms				
	Sub Total		38			
J	Arial Bunched Cable					
i)	HT					
		Kms	-			
		Kms				
		Kms				
	Sub Total		0			
ii)	LT					
	Augmentation/Reconductoring with Ariel Bunch Cable (3Cx120 mm2 + 1x70 mm2)	Kms	0			
		Kms				
		Kms				
	Sub Total		0			
	Total		0			
K	UG Cable					
i)	HT					
	3C x 300 mm2 XLPE Cable	Kms				
		Kms				
		Kms				
	Sub Total		0			
ii)	LT					
		Kms				
		Kms				
		Kms				
	Sub Total		0			
	Total		0			
L	11 KV Bay Extension					
		Kms				
		Kms				
		Kms				
	Sub Total		0			

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price		Cost proposed under IPDS	
					Rs. Lac	Rs. Lac		
M	Installation of Distribution Transformer							
	100KVA X5No.= 0.500 MVA	Nos.		38				
		Nos.						
		Nos.						
	Sub Total			38				
N	Capacity enhancement of LT sub-station							
		Nos.						
		Nos.						
		Nos.						
	Sub Total			0				
O	LT Line : New Feeder/ Feeder Bifurcation							
	LT line with 100mm2 ACSR with 40 meter span	Kms						
		Kms						
		Kms						
	Sub Total			0				
P	LT Line : Augmentation/Reconductoring							
	LT line with 100mm2 ACSR	Kms		36.00				
		Kms						
		Kms						
	Sub Total			36				
Q	Capacitor Bank							
		Nos.						
		Nos.						
		Nos.						
	Sub Total			0				
R	HVDS							
		Nos.						
		Nos.						
		Nos.						
	Sub Total			0				
S	Metering							
i)	Prepaid / smart meters in Govt. establishment	Nos.		0	27	0.12		3.24
ii)	AMI, Smart meters in the towns where SCADA being established under R-APDRP.	Nos.		0	0	0.030		-
iii)	Boundary meters for ring fencing of Non-RAPDRP Towns with population more than 5000	Nos.				0.0300		
iv)	AMR for feeders, Distribution transformer and high load consumers	Nos.						
v)	Consumers for existing un-metered connections, replacement of faulty meters & electro-mechanical meters	Nos.		3600	1789	0.030		53.658
vi)	Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.						
	Sub Total			3600	1816			56.898
T	Provisioning of solar panel							
	33 kV S/Stn. Bawani Khera	KWe			1	1		1
	SDO Office	KWe			1	1		1
	Location 3/(Capacity)	KWe						
	Net-Meters	Nos.						
	Sub Total			0	2			2
U	RMU,Sectionaliser, Auto reclosures, FPI etc.							
i)	33 kV Line : Installation of switchable breaker/switches	Nos.						
ii)	33 kV Line : Installation of commnucable/non-communicable FPIs (O/C&E/F)	Nos.						
iii)	11 kV Line : Installation of RMUs/Sectionaliser alongwith aux power supply to operate sw/breaker.	Nos.						
iv)	11 kV Line :- Installation of communicable/non communicable FPIs (O/C,E/F)	Nos.						
v)	11 kV Line : Installation of switchable breakers alongwith aux power supply to operate sw/breaker	Nos.						
vi)	Installation of remote operable switches for breaker/switches operation for Distribution Transformer alongwith aux power supply to operate sw/breaker	Nos.						
vii)	Installation of remote operable switches for breaker/switches operation for cap bank alongwith aux power supply to operate sw/breaker .	Nos.						
	Sub Total			0	0			0
V	Others							
	Sub Total			0	0			0
	Grand Total							142.90

Note: Unit price and Total Cost are inclusive of all taxes and duties

POWER FINANCE CORPORATION LTD.**Detail Project Report****Justification / Details of Proposed Works (Separate Sheet for Each TOWN to be furnished)****A. Details of 33/11 KV Substation : New**

Sr No.	Circle	IPDS Town	Total Number of Proposed 33 kV substation	Total Capacity of Proposed 33 kV substation (MVA)	Name of Substation	Unit Cost @Rs 40 lacs/MVA
	NIL		0	0		0
			0	0		0
			0	0		0
			0	0		0
Sub Total			0	0		0

B.33/11 KV S/S : Additional Transformer

Sr No.	Circle	IPDS Town	Total Number of Additional Power Transformer	Total Capacity of Proposed Additional Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
	Nil		0	0		0
			0	0		0
			0	0		0
			0	0		0
Sub Total			0	0		0

C.33/11 KV S/S : Transformer capacity enhancement

Sr No.	Circle	IPDS Town	Existing capacity of Power Transformer	Proposed capacity of Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	Bhiwani	Bawani Khera	4	6	Bawani Khera	84
			0	0		0
			0	0		0
			0	0		0
Sub Total			4	6		84

E.New 33 KV new feeders/Bifurcation of feeders:

Sr No.	Circle	New Feeder/ Bifurcator	EHV Substation (Feeding source)	Proposed Name of the feeder (Conductor Size 150 Sqmm)	Length of Feeder (Km)	Unit Rate @ Rs 9.95 lac/Km
	NIL				0	0
					0	0
					0	0
Sub Total						0

F. 33 KV feeders Reconductoring/Augmentation

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	Name of the feeder Conductor Size 150 Sqmm)	Existing size of conductor	Length of Feeder (Km)	Unit Rate @ 7.55 Lac/Km
1	Bawani Khera	Augmentation/ Reconductoring	132 kV Hansi	33 kV Bawani Khera	80 mm ²	26	196.3
						0	0
						0	0
Sub Total							26
							196.3

G. 11 kV Line : New Feeder/ Feeder Bifurcation

Sr No.	IPDS Town	New Feeder/ Bifurcator	EHV Substation (Feeding Source)	Name of the feeder Conductor Size 100 Sqmm)	Length of Feeder (Km)	Unit Rate @ 6.70 Lac/ Km
1	Bawani Khera	New Feeder/ Bifurcator	132 kV Hansi	Sumra Khera	8	53.6
2	Bawani Khera	New Feeder/ Bifurcator	132 kV Hansi	Talu	8	53.6
3	Bawani Khera	New Feeder/ Bifurcator	132 kV Hansi	Sumra Khera AP	5	33.5
Sub Total						21
						140.7

H.11 kV Line : Augmentation/Reconductoring

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	Name of the feeder Conductor Size 100 Sqmm)	Existing size of conductor	Length of	Unit Rate @ 4.66 lac/Km
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1	Bawani Khera	Augmentation/ Reconductoring	132 kV Hansi	Bawani Khera	50 mm ²	20	93.2
						0	0
						0	0
Sub Total						20	93.2

I. Aerial Bunched Cable (LT)

Sr No.	IPDS Town	Size of Cable (3Cx120 +1x70 Sqmm)	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 4.93 lac /Km	
	NIL				0	0	
					0	0	
					0	0	
Sub Total						0	0

J.UG Cable

Sr No.	IPDS Town	Size of Cable	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 31.64 Lacs/KM	
1	Bawani Khera	3x300Sqmm	132 kV Hansi	Sumra Khera	0.8	25.312	
2			132 kV Hansi	Talu	0.4	12.656	
3			132 kV Hansi	Sumra Khera AP	0.8	25.312	
Sub Total						2	63.28

K. Installation of Distribution Transformer

Sr No.	Circle	Feeding Souce (EHV Substation)	Name of 11 kV Feeder	Proposed 100 KVA DTs (Nos)	Unit Rate for 100 KVA DT @ 2.24 lac/ DT	Proposed 200 kVA DTs (Nos)	Unit Rate for 200 KVA DT @3.97
1	Bhiwani	132 kV Hansi	Bawani Khera	5	11.2	0	0
					0		0
					0		0
					0		0
					0		0
Sub Total					5	11.2	0
Total Cost					11.2		

List of Govt Eshtablishments where Prepaid Meter are to be installed.

Sr No.	IPDS Town	Name of Govt Eshtablishment	Total Nos of Prepaid meter Requirement	Unit rate @ Rs 0.12 Lac / meter
1	Bawani Khera	Aria inspector	1	0.12
2	Bawani Khera	BDO B/Khera	1	0.12
3	Bawani Khera	COP	1	0.12
4	Bawani Khera	F.C.I	1	0.12
5	Bawani Khera	GIRLS HIGH SCHOOL	1	0.12
6	Bawani Khera	Govt. Girls High School	1	0.12
7	Bawani Khera	Head Master Govt. PRIMary	1	0.12
8	Bawani Khera	Head Master Govt. PRIMary	1	0.12
9	Bawani Khera	Incharge Vetenary Hospital	1	0.12
10	Bawani Khera	J.T.O. B/Khera	1	0.12
11	Bawani Khera	Land morges	1	0.12
12	Bawani Khera	M.C. Bawani khera	1	0.12
13	Bawani Khera	M.C. Bawani khera	1	0.12
14	Bawani Khera	M.C. Bawani khera	1	0.12
15	Bawani Khera	M.C. Bawani khera	1	0.12
16	Bawani Khera	M.C. Bawani khera	1	0.12
17	Bawani Khera	M.C. Bawani khera	1	0.12
18	Bawani Khera	M.C. Bawani khera	1	0.12

19	Bawani Khera	Medical officer	1	0.12
20	Bawani Khera	Post master	1	0.12
21	Bawani Khera	S.D.O Huda electric	1	0.12
22	Bawani Khera	S.D.O P/Health	1	0.12
23	Bawani Khera	S.D.O P/Health	1	0.12
24	Bawani Khera	S.D.O P/Health	1	0.12
25	Bawani Khera	S.H.O B/Khera	1	0.12
26	Bawani Khera	SDO B&R B/KHERA	1	0.12
27	Bawani Khera	Tehsil office	1	0.12
Sub Total			27	3.24

Provision for Solar Panel

Details of 1 kVe Solar panel to be furnished by Town against Proposed New 33 kV Substation

Unit Cost @ Rs 1 Lac per KVE

2.00

T. Switching Substation (33 kV and 11 kV)

Sr No.	IPDS Town	Name of Substation	Voltage Level (33 kV/ 0.4 kv or 11 kv/0.4 kv)	Unit Rate For 33 kv level	Unit Rate For 11 kv level
	NIL				

POWER FINANCE CORPORATION LTD.

Detail Project Report of Dadri

Estimated Project Cost - Bill of Quantities

For Non R-APDRP Towns (Separate BOQ sheet to be furnished for each town)

Bill of Quantities

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS
					Rs. Lac	Rs. Lac
A	33/11 KV S/S : New					
1		Nos	1	0		-
2		Nos				-
3		Nos.				-
	Sub Total		1	0		0
B	33/11 KV S/S : Additional Transformer					
1	33 KV S/Stn. Ghasola 1 X 10 MVA	Nos.	1.00	1	140	140.00
2		Nos.				
3		Nos.				
	Sub Total		1	1		140
C	33/11 KV S/S : Transformer capacity enhancement					
1		MVA	10.00	0		-
2		MVA				-
3		MVA				
	Sub Total		10	0		0
D	Renovation & Modernisation of 33/11 kV SS					
1	33 KV S/Stn. Ghasola	Nos.	1			
2		Nos.				
3		Nos.				
	Sub Total		1			
E	New 33 KV new feeders/Bifurcation of feeders:					
1		Kms	0			
2		Kms				
3		Kms				
	Sub Total		0			
F	33 KV feeders Reconductoring/Augmentation					
1	33 KV Ghasola = 12 KM with with 150 mm2 ACSR	Kms	12.00			
2		Kms				
3		Kms				
	Sub Total		12			
G	33 kV Line Bay Extension at EHV station					
1		Nos	-			
2		Nos				
3		Nos				
	Sub Total		0			
H	11 kV Line : New Feeder/ Feeder Bifurcation					
1	HT line with 100mm2 ACSR 40 meter span on 11 meter poles	Kms	-			
2		Kms				
3		Kms				
	Sub Total		0			
I	11 kV Line : Augmentation/Reconductoring					
1	HT line with 100mm2 ACSR	Kms	-			
2		Kms				
3		Kms				
	Sub Total		0			
J	Arial Bunched Cable					
i)	HT					
		Kms	-			
		Kms				
		Kms				
	Sub Total		0			
ii)	LT					
	Augmentation/Reconductoring with Ariel Bunch Cable (3Cx120 mm2 + 1x70 mm2)	Kms	0			
		Kms				
		Kms				
	Sub Total		0			
	Total		0			
K	UG Cable					
i)	HT					
	3C x 300 mm2 XLPE Cable	Kms	0			
		Kms				
		Kms				
	Sub Total		0			
ii)	LT					
		Kms				
		Kms				
		Kms				
	Sub Total		0			
	Total		0			
L	11 KV Bay Extension					
		Kms	-			
		Kms				
		Kms				
	Sub Total		0			

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price		Cost proposed under IPDS	
					Rs. Lac	Rs. Lac	Rs. Lac	Rs. Lac
M	Installation of Distribution Transformer							
	100KVA X24No =2.4 MVA	Nos.		212				
		Nos.						
		Nos.						
	Sub Total			212				
N	Capacity enhancement of LT sub-station							
		Nos.		0				
		Nos.						
		Nos.						
	Sub Total			0				
O	LT Line : New Feeder/ Feeder Bifurcation							
	LT line with 100mm2 ACSR with 40 meter span	Kms		0				
		Kms						
		Kms						
	Sub Total			0				
P	LT Line : Augmentation/Reconductoring							
	LT line with 100mm2 ACSR	Kms		138				
		Kms						
		Kms						
	Sub Total			138				
Q	Capacitor Bank							
		Nos.		0				
		Nos.						
		Nos.						
	Sub Total			0				
R	HVDS							
		Nos.		0				
		Nos.						
		Nos.						
	Sub Total			0				
S	Metering							
	i) Prepaid / smart meters in Govt. establishment	Nos.		10	0.12		1.20	
	ii) AMI, Smart meters in the towns where SCADA being established under R-APDRP.	Nos.						
	iii) Boundary meters for ring fencing of Non-RAPDRP Towns with population more than 5000	Nos.						
	iv) AMR for feeders, Distribution transformer and high load consumers	Nos.						
	v) Consumers for existing un-metered connections, replacement of faulty meters & electro-mechanical meters	Nos.						
	vi) Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.						
	Sub Total			0.00	10.00	0.12	1.20	
T	Provisioning of solar panel							
	33 kV S/Stn. Ghasola	KWe		1	1		1	
	SDO/Xen Office	KWe		1	1		1	
	Location 3/(Capacity)	KWe						
	Net-Meters	Nos.						
	Sub Total			2			2	
U	RMU,Sectionaliser, Auto reclosures, FPI etc.							
	i) 33 kV Line : Installation of switchable breaker/switches	Nos.						
	ii) 33 kV Line : Installation of commnucable/non-communicable FPIs (O/C&E/F)	Nos.						
	iii) 11 kV Line : Installation of RMUs/Sectionaliser alongwith aux power supply to operate sw/breaker.	Nos.						
	iv) 11 kV Line :- Installation of communicable/non communicable FPIs (O/C,E/F)	Nos.						
	v) 11 kV Line : Installation of switchable breakers alongwith aux power supply to operate sw/breaker	Nos.						
	vi) Installation of remote operable switches for breaker/switches operation for Distribution Transformer alongwith aux power supply to operate sw/breaker	Nos.						
	vii) Installation of remote operable switches for breaker/switches operation for cap bank alongwith aux power supply to operate sw/breaker .	Nos.						
	Sub Total			0	0		0	
V	Others							
	Sub Total			0	0		0	
	Grand Total						143.20	

Note: Unit price and Total Cost are inclusive of all taxes and duties

POWER FINANCE CORPORATION LTD.
Detail Project Report
Justification / Details of Proposed Works (Ch. Dadri)

A. Details of 33/11 KV Substation : New

Sr No.	Circle	IPDS Town	Total Number of Proposed 33 kV substation	Total Capacity of Proposed 33 kV substation (MVA)	Name of Substation	Unit Cost @Rs 40 lacs/MVA
	NIL		0	0		0
			0	0		0
			0	0		0
			0	0		0
Sub Total			0	0		0

B.33/11 KV S/S : Additional Transformer

Sr No.	Circle	IPDS Town	Total Number of Additional Power Transformer	Total Capacity of Proposed Additional Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	Bhiwani	Dadri	1	10	Ghasola	140
			0	0		0
			0	0		0
			0	0		0
Sub Total			1	10		140

C.33/11 KV S/S : Transformer capacity enhancement

Sr No.	Circle	IPDS Town	Existing capacity of Power Transformer	Proposed capacity of Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
	NIL		0	0		0
			0	0		0
			0	0		0
			0	0		0
Sub Total			0	0		0

E.New 33 KV new feeders/Bifurcation of feeders:

Sr No.	Circle	New Feeder/ Bifurcation	EHV Substation (Feeding source)	Proposed Name of the feeder (Conductor Size 150 Sqmm)	Length of Feeder (Km)	Unit Rate @ Rs 9.95 lac/Km
	NIL				0	0
					0	0
					0	0
Sub Total						0

F. 33 KV feeders Reconductoring/Augmentation

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 150 Sqmm)	Existing size of conductor	Length of Feeder (Km)	Unit Rate @ 7.55 Lac/Km
1	Dadri	Augmentation/ Reconductoring	132 kV Ch. Dadri-II	33 kV Ghasola	80 mm ²	12	90.6
						0	0
						0	0
Sub Total							12
							90.6

G. 11 kV Line : New Feeder/ Feeder Bifurcation

Sr No.	IPDS Town	New Feeder/ Bifurcation	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Length of Feeder (Km)	Unit Rate @ 6.70 Lac/ Km
1	Dadri	New Feeder/ Bifurcation	132 kV Ch. Dadri-II	Prem Nagar	2	13.4
	Dadri	New Feeder/ Bifurcation	132 kV Ch. Dadri-II	Charkhi Gate	5	33.5
	Dadri	New Feeder/ Bifurcation	132 kV Ch. Dadri-II	Champapuri	3	20.1
	Dadri	New Feeder/ Bifurcation	132 kV Ch. Dadri-II	Bus Stand Road	1	6.7
Sub Total						11
						73.7

H.11 kV Line : Augmentation/Reconductoring

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Existing size of conductor	Length of	Unit Rate @ 4.66 lac/Km
	NIL					0	0
						0	0
						0	0
Sub Total						0	0

I. Arial Bunched Cable (LT)

Sr No.	IPDS Town	Size of Cable (3Cx120 +1x70 Sqmm)	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 4.93 lac /Km	
	NIL				0	0	
					0	0	
					0	0	
Sub Total						0	0

J.UG Cable

Sr No.	IPDS Town	Size of Cable	EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 31.64 Lacs/KM	
1	Dadri	3x300Sqmm	132 kV Ch. Dadri-II	Prem Nagar	1.1	34.804	
					0	0	
					0	0	
Sub Total						1.1	34.804

K. Installation of Distribution Transformer

Sr No.	Circle	Feeding Souce (EHV Substation)	Name of 11 kV Feeder	Proposed 100 KVA DTs (Nos)	Unit Rate for 100 KVA DT @ 2.24 lac/ DT	Proposed 200 kVA DTs (Nos)	Unit Rate for 200 KVA DT @3.97
1	Bhiwani	132 kV Ch. Dadri-II	All	24	53.76	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
Sub Total				24	53.76	0	0
Total Cost				53.76			

List of Govt Eshtablishments where Prepaid Meter are to be installed.

Sr No.	IPDS Town	Name of Govt Eshtablishment	Total Nos of Prepaid meter Requirement	Unit rate @ Rs 0.12 Lac / meter
1	Dadri	SDO PH DADRI	2	0.24
2	Dadri	BDO IST BLOCK	1	0.12
3	Dadri	PRESIDENT AGRUCULTUR	1	0.12
4	Dadri	CIVIL HOSPITAL DADRI	1	0.12
5	Dadri	SUB TREASURY OFFICE	1	0.12
6	Dadri	SECT MUNICIPAL COMMT	1	0.12
7	Dadri	SDM SAHALL MINI FEET	1	0.12
8	Dadri	ASSISTT REGUSTRAR CO	1	0.12
9	Dadri	SUB HEALTH CENTER	1	0.12
Sub Total			10	1.2

Provision for Solar Panel

Details of 1 kVe Solar panel to be furnished by Town against Proposed New 33 kV Substation

Unit Cost @ Rs 1 Lac per KVE

2.00

T. Switching Substation (33 kV and 11 kV)

Sr No.	IPDS Town	Name of Substation	Voltage Level (33 kV/ 0.4 kv or 11 kV/0.4 kv)	Unit Rate For 33 kV level	Unit Rate For 11 kV level
	NIL				

Project Benefits:

a. **Reduction in AT&C loss**

Implementation of the project will facilitate to achieve Utility level AT&C Loss reduction trajectory as per Annexure-III of IPDS Guidelines is shown below:		
Base Year: AT&C Loss for FY 2013-14	%	50.00%
FY 15-16	%	48.00%
FY 16-17	%	46.00%
FY 17-18	%	44.00%
FY 18-19	%	42.00%
FY 19-20	%	40.00%
FY 20-21	%	38.00%
FY 21-22	%	36.00%

b. **Other intangible benefit shall be as follows:**

- . Accurate & reliable energy accounting on sustainable basis.
- . Better accountability at all level.
- . Improve the reliability of the power supply.
- . 24x7 power supply for consumers in urban area.
- . Reduction of Losses to meet AT&C loss reduction trajectory.
- . Providing electricity access to all urban house hold.
- . Improvement in network planning
- . Improvement in quality of supply like voltage level, PF etc.
- . Prompt and effective solution to the consumer queries / grievances.

Line loss reduction: With strengthening of network, conductor resistance will be reduced, resulting reduction in cu loss.

Ensuring better accounting: With metering of all nodal points, the energy accounting & auditing will be improved, resulting better administrative action:

Better voltage profile: With strengthening of network & improvement in PF, tail end voltage will be improved & reactive current will be reduced resulting improvement of quality of power & better consumer satisfaction..

Decrease in the DT failure: With addition of DT & enhancement of DT capacity the load on DT will be reduced, resulting decrease in DT failure & improvement in reliability.

Curbing the theft/ pilferage/ and unaccounted usage: With ABC, HVDS, meter pillar boxes & proper consumer metering, theft / pilferage & unaccounted usages will be minimised.

Priority of works to be proposed under IPDS against the Vol-IIA in respect of Bhiwani Circle (as per DPR) is as under :-

- 1 Bifurcation of 11 KV Feeders
- 2 Providing of additional TFs at 33 KV Sub Stations
- 3 Capacity enhancement of 33/11 KV Power TFs at 33 KV Sub Stations
- 4 Creation of new 33 KV Sub Stations
- 5 Enhancement of LT Sub Stations/DTF
- 6 Providing of additional DTFs
- 7 Balance/other activities will be carried out