

INTEGRATED POWER DEVELOPMENT SCHEME
(IPDS)

State

HARYANA

**Name of Govt Utility
Implementing Project**

DHBVN

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

HISAR/HISAR/DHBVN

Detail Project Report

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

Ref no. of DPR

IPDS/DHBVN/HISAR

Submitted to

POWER FINANCE CORPORATION LTD.

Date of Submission



POWER FINANCE CORPORATION LTD.
Detail Project Report
Index

S. NO.	Table of Contents	Page Number
1	Input Data for Detailed Project Report	1
2	Guidelines for DPR Preparation & Implementation	2-3
3	Declaration	4
4	District Electricity Committee (DEC) Certificate	5
5	Executive Summary	6
6	Background	7
7	Volume I: Project Area Details	8
8	Volume IIa: SUMMARY Project Cost	9 onwards
9	Estimated Project Cost - Bill of Quantities	Annexure-1
10	Cost Benefit	Annexure-2
11	Project area asset detail	Annexure-3
12	Details-Proposed (Justification)	Annexure-4

POWER FINANCE CORPORATION LTD.
Detail Project Report
INPUT DATA

Utility Details	
Name of State	Haryana
Name of Govt Utility Implementing Project (Expanded Name)	DAKSHIN HARYANA BIJLI VITRAN NIGAM
Name of Govt Utility Implementing Project (Short Name)	DHBVN
Name of Pvt/Distribution Franchisee (in case of Pvt/DF/ Cooperative Society)	

Contact Details of Nodal Officer (Govt Utility Implementing Project)	
Name	Er. K.K. Gupta
Designation	C.E-PD&C
Address	Vidyut Sadan, DHBVN Hisar
Phone Office	01662-223216
Mobile No.	9812452524
Fax	01662-223181
E-mail	cepdcdhbn@gmail.com

Utility level AT&C loss	Unit	AT&C Loss for FY 2013-14
AT&C loss as provided by PFC in latest "Report on Performance of State Power Utilities"	%	24.09%

Project Area Details

Name of the Project Area Circle/ Zone/ Utility)	HISAR/HISAR/DHBVN
Nos. of towns covered	4
Total Population of all towns covered in project area	112834
Nos. of Consumers in all towns covered in the project area	25348

Contact Details of Project Area Incharge (Govt/Govt Authorised Agency)	
Name	Er. D.L. Hansu
Designation	S.E.
Address	OP Circle, DHBVN Hisar
Phone Office	01662-232629
Mobile No.	98122-21710
Fax	01662-227258
E-mail	seopdhbnhisar@gmail.com

Data for AT&C Losses Computation for Project Area (All statutory towns of the Circle/ Zone/ Utility)	Unit	Data for Previous FY
Energy Input	M Units	131.05
Energy Sales	M Units	90.18
Total Revenue Billed	Rs. Lac	6158.36
Total Revenue Collected (excluding arrears)	Rs. Lac	6102.05
Billing Efficiency	%	68.81%
Collection Efficiency	%	99.09%
AT&C Losses	%	31.82%

Dedicated team:

HQ Level	Field Level
Name & Designation	
Mr. R.K Sodha	Er. S.K. Singh (XEN-OP Div -2, Hisar)
SE. P&D	Er. Sukhbir Kamboj (XEN-OP Div , Hansi)
DHBVN HISAR	Er. R.S. Malik (XEN-OP Div Fatehabad)
	Er. R. Sabharwal (XEN-OP Div Tohana)

Date of Submission of Proposal	Date	
DPR Ref No.	No.	IPDS/DHBVN/HISAR
Proposed Project Start Date	Month-Year	
Proposed Month of Completion	Month-Year	

POWER FINANCE CORPORATION LTD.

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 guidelines 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

POWER FINANCE CORPORATION LTD.

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. Works already sanctioned under other schemes of Govt. of India (like R-APDRP/RGGVY/DDUGJY/NEF etc.) are not proposed under
- 26 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: Er. D.L Hansu

Designation: S.E. OP DHBVN Hisar

Tel. No. / Mobile No. : 98122-21710

Email address : seopdhbnhisar@gmail.com

Nodal Officer (Govt Utility Implementing Project)

Approved by:

Signature:

Name:

Designation:

Tel. No. / Mobile No. :

Email address :

Mandatory
Consent of District Electricity Committee (DEC)

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

We hereby submit our consent for approval and execution of works under IPDS Scheme for urban area of our District, Hisar/OP Circle DHBVN, Hisar to achieve the ultimate benefit of above Scheme to the urban residents.

Sr. No.	Name		Designation of DEC	Signature
1.	Sh. Dushyant Chautala	Senior most MP, Hisar	Chairman	
2.	Dr. Chander Shekhar Khare	D.C, Hisar	Convener	
3.	Sh. Kuldip Bishnoi	MLA, Adampur	Member	
4.	Sh. Ranbir Singh Gangwa	MLA, Nalwa	Member	<i>Ranbir Singh</i>
5.	Smt. Renuka Bishnoi	MLA, Hansi	Member	
6.	Sh. Ved Narang	MLA, Barwala	Member	<i>Ved Narang</i>
7.	Sh. Anoop Dhanak	MLA, Uklana	Member	<i>Anoop Kumar</i>
8.	Sh. D.L. Hansu	S.E/OP, Hisar	Member Secretary	<i>D.L. Hansu</i>

Mandatory
Consent of District Electricity Committee (DEC)

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We hereby submit our consent for approval and execution of works under IPDS Scheme for urban area of our District, Fatehabad/OP Circle DHBVN, Hisar to achieve the ultimate benefit of above Scheme to the urban residents.

Sr. No.	Name		Designation of DEC	Signature
1.	Sh. Charanjit Singh	Senior most MP, Sirsa	Chairman	<i>Charanjit Singh Sirsa</i>
2.	Sh. N.K. Solanki	D.C, Fatehabad	Convener	<i>N.K. Solanki</i>
3.	Sh. Subhash Barala	MLA, Tohana	Member	<i>Subhash Barala</i>
4.	Sh. Balwan Singh	MLA, Fatehabad	Member	<i>Balwan Singh</i>
5.	Sh. Ravinder Baliyala	MLA, Ratia	Member	<i>Ravinder Baliyala</i>
6.	Sh. D.L. Hansu	S.E/OP, Hisar	Member Secretary	<i>D.L. Hansu</i>

POWER FINANCE CORPORATION LTD.

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)	HISAR	
Nos. of towns covered	4	
Nos. of Consumers in all towns covered in the project area	2237 (Till May'15)	
Data for AT&C Losses Computation for Project Area (All statutory towns of the Circle/ Zone/ Utility)	Unit	Data for Previous FY
Energy Input	M Units	131.05
Energy Sales	M Units	90.18
Total Revenue Billed	Rs. Lac	6158.36
Total Revenue Collected (excluding arrears)	Rs. Lac	6102.05
Billing Efficiency	%	68.81
Collection Efficiency	%	99.09
AT&C Losses	%	31.82

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

Name of Town	Town In Charge	Contact No.
Adampur	Er. S.K. Singh	98124-52598
Narnaund	Er. Sukhbir Kamboj	98122-01236
Ratia	Er. R.S Malik	98122-01244
Bhuna	Er. S.L Gupta	98124-52702

Project Funding

Recommended Project Cost for Sanction	Rs. Lac	1233.60
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Cost Item		Total Cost	Gol	PFC/ Fls	Own
Total Setup Cost	Rs.Lac	1233.60	740.16	370.08	123.36

		Base Year-0	Year-1	Year-2
Phasing of Capital Expenditure	Rs.Lac	74.02	542.78	616.80

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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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Detail Project Report

Project area asset detail

(A) 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	132 KVA S/Stn Adampur	132/11KV	10/16	1	16	15.9
2	220 KV S/Stn Bhuna	132/11KV	12.5	1	12.5	10
3	132 KV Narnaud	132/11KV	10/16	1	16	16

(B) Details of 33/11 Sub-stations feeding project area

Sr.No.	Name of Substation	Voltage Ratio	Length of 33 KV Line (KM)	Capacitor Bank (In MVAR)	HV Transformer Details			Maximum Demand	
					Rating (MVA)	Nos.	Capacity (MVA)	MVA	MVAR
1	33 KV RATIA	33/11 KV	0.6	3.6	10	1	10	8.57	3.77
		33/11 KV		3.6	10	1	10	7.43	3.27

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

Sr. No.	From 33/11 or 66/11 KV S/S	Name & Capacity of Power Transformer	Name of 11 KV feeder	Type of conductor	Length of 11 KV Line (KM)	Length of LT Line (KM)	Length of Arial Bunched Cable (KM)	Peak Demand (MVA)	Distribution Transformer Details	
									Rating (KVA)	Nos.
1	33 KV S/Stn. Ratia	2x10 MVA	City-I	80/50/30mm2	20	9	2	3.40	25, 63, 100, 200, 78, 3, 27, 8	116
2			City-II	80/50/30mm2	17	10	2	3.40	25, 63, 100, 200, 9, 22, 27, 2	60
3			City-III	80/50/30mm2	25	5	0	2.90	25, 63, 100, 200, 42, 37, 57, 1	137
4			City-IV	80/50/30mm2	12	3	0	2.90	25, 63, 100, 200, 49, 6, 12, 2	69
					74	27	4	12.6	382	

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

Sr. No.	From EHV Substation	Name & Capacity of Power Transformer	Name of 11 KV feeder	Type of conductor	Length of 11 KV Line (KM)	Length of LT Line (KM)	Length of Arial Bunched Cable (KM)	Peak Demand (MVA)	Distribution Transformer Details	
									Rating (KVA)	Nos.
1	132 KVA S/Stn Adampur	10/16 KVA	11 KV Adampur	80/50mm2	26	14	0	2.47	5, 25, 63, 100, 200, 300, 3, 11, 7, 16, 8, 1	46
2	132 KVA S/Stn Adampur		11 KV Model Town	80/50mm2	26	11	0	4.76	25, 63, 100, 200, 250, 300, 3, 2, 14, 11, 1, 3	34
3	132 KVA S/Stn Adampur		11 KV Mandi	80/50mm2	15	4	0	2.66	5, 25, 63, 100, 200, 250, 300, 1, 2, 5, 20, 10, 3, 2	43
4	220 KV S/Stn Bhuna	T-3 12.5 MVA 132/11 KV	Bhuna-1	50/30mm2	20	14	0	4.10	25, 63, 100, 200, 400, 25, 24, 28, 2, 3	82
5	220 KV S/Stn Bhuna		Bhuna-II	50/30mm2	15	19	0	3.70	25, 63, 100, 200, 400, 20, 30, 15, 3, 2	70
6	132 KV S/Stn. Narnaud	10/16 MVA	11 KV Narnaud	50/30mm2	19.40	24.72	5	5.30	25, 63, 100, 200, 166, 6, 38, 5	215
					121.4	86.72	5	22.985238	490	
					195.4	113.72	9	35.585238	872	

Capacity (KVA)
6439
4711
9281
3203

23634

Capacity (KVA)
4231
4951
5720
6537
5290
9328

36057
59691

POWER FINANCE CORPORATION LTD.**Detail Project Report**

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.	1	0
Total Length of 33 KV Feeders (Overhead)	kM	0.6	0
Total Length of 132/ 66/33 kV Feeders (Under-ground)	kM	0	0
Total Number of 132/11, 66/11 kV and 33/11 kV Sub-stations feeding the Project Area	Nos.	4	0
Total Number of Power Transformers	Nos.	5	0
Total Capacity of Power Transformers	MVA	64.5	0
33/11 kV or 132/11 kV S/Stn. R&M	Nos.	0	0
Total Number 11 kV Feeders	Nos.	10	7
Number of Metered 11 kV Feeders	Nos.	10	7
Total Length of 11 kV Feeders (Overhead)	kM	195.40	104.9
Total Length of 11 kV Feeders (Under-ground)	kM	0	1.9
Total Length of LT Lines (Overhead)	kM	113.72	68.22
Total Length of LT Lines (Under-ground)	kM	0	0
Augmentation with Cable (ACSR to Armoured Cable)	kM	0	0
Aerial Bunched Cable	kM	9	65.5
HT/LT Ratio		1:06	1:06
Total Number of Distribution Transformers	Nos.	872	91
Total Capacity of Distribution Transformers	MVA	59.69	10.6
Distribution Transformers R&M	Nos.	751	367
Metering / Feeder Boundary Point / DT/ Consumer/Prepared/Smart Meter in Govt.	Nos.	18424	3958
Total Annual Energy Input of previous FY	MUs	131.05	144.18
Current Peak Demand	MVA	57.3	63.03
Current Average Demand	MVA	48.1	52.91
Capacitor Bank	MVAR	7.2	0
Solar Project	Nos./KVE	0	3
Please specify name of town of Project area covered under Part-A (IT) of R-APDRP, if any.		-	-
Please specify name of town of Project area covered under Part-A (SCADA/DMS) of R-APDRP, if any.		-	0

POWER FINANCE CORPORATION LTD.**Detail Project Report**

Volume IIa: SUMMARY Project Cost

HISAR CIRCLE

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	0	0
B	33/11 KV S/S : Additional Transformer	Nos.	0	0
C	33/11 KV S/S : Transformer capacity enhancement	MVA	0	0
D	Renovation & Modernisation of 33/11 kV SS	Nos.	0	0
E	New 33 KV new feeders/Bifurcation of feeders:	Kms	0	0
F	33 KV feeders Reconductoring/Augmentation	Kms	0	0
G	33 kV Line Bay Extension at EHV station	Nos	0	0
H	11 kV Line : New Feeder/ Feeder Bifurcation	Kms	40	268.00
I	11 kV Line : Augmentation/Reconductoring	Kms	0.00	0.00
J	Arial Bunched Cable	Kms	65.50	322.92
K	UG Cable	Kms	0.00	0.00
L	11 KV Bay Extension	Kms	0	0.00
M	Installation of Distribution Transformer	Nos.	91	229.79
N	Capacity enhancement of LT sub-station	Nos.	0	0.00
O	LT Line : New Feeder/ Feeder Bifurcation	Kms	53.50	278.74
P	LT Line : Augmentation/Reconductoring	Kms	0.00	0.00
Q	Capacitor Bank	Nos.	0	0.00
R	HVDS	Nos.	0	0.00
S	Metering	Nos.	3958	131.16
T	Provisioning of solar panel	Lot	3	3.00
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0.00
V	Others (Distribution T/Fs. -R&M)	Lot	0	0.00
	GRAND TOTAL			1,233.60

1,233.60

For Non R-APDRP Towns (Separate BOQ sheet to be furnished for each town) HISAR CIRCLE**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		Nos	4.00	-	-	-	Project area Detail (A & B)
2		Nos	-	-	-	-	-
3		Nos.	-	-	-	-	-
			-	-	-	-	-
	Sub Total		4.00	-	-	-	-
B	33/11 KV S/S : Additional Transformer						
1		Nos.	5.00	-	-	-	Project area Detail (A & B)
2		Nos.	-	-	-	-	-
3		Nos.	-	-	-	-	-
			-	-	-	-	-
	Sub Total		5.00	-	-	-	-
			-	-	-	-	-
C	33/11 KV S/S : Transformer capacity enhancement						
1		MVA	64.50	-	14.00	-	Project area Detail (A & B)
2		MVA	-	-	-	-	-
3		MVA	-	-	-	-	-
			-	-	-	-	-
	Sub Total		64.50	-	-	-	-
			-	-	-	-	-
D	Renovation & Modernisation of 33/11 kV SS						
1		Nos.	-	-	2.00	-	-
2		Nos.	-	-	-	-	-
3		Nos.	-	-	-	-	-
			-	-	-	-	-
	Sub Total		-	-	-	-	-
E	New 33 KV new feeders/Bifurcation of feeders:						
1		Kms	0.60	-	9.95	-	Project area Detail (B)
2		Kms	-	-	-	-	-
3		Kms	-	-	-	-	-
			-	-	-	-	-
	Sub Total		0.60	-	-	-	-
F	33 KV feeders Reconductoring/Augmentation						
1		Kms	-	-	7.55	-	-
2		Kms	-	-	-	-	-
3		Kms	-	-	-	-	-
			-	-	-	-	-
	Sub Total		-	-	-	-	-
G	33 kV Line Bay Extension at EHV station						
1		Nos	-	-	-	-	-
2		Nos	-	-	-	-	-
3		Nos	-	-	-	-	-
			-	-	-	-	-
	Sub Total		-	-	-	-	-
H	11 kV Line : New Feeder/ Feeder Bifurcation						
			-	-	-	-	-

1		Kms	195.40	-	-	-	Project area Detail (C & D)
2		Kms	-	40.00	6.70	268.00	Hisar Circle Detail (G)
3		Kms	-	-	-	-	-
	Sub Total		195.40	40.00	-	268.00	-
I	11 kV Line : Augmentation/Reconductoring		-	-	-	-	-
1		Kms	-	-	4.66	-	Hisar Circle Detail (H)
2		Kms	-	-	-	-	-
3		Kms	-	-	-	-	-
	Sub Total		-	-	-	-	-
J	Arial Bunched Cable		-	-	-	-	-
i)	HT		-	-	-	-	-
		Kms	9.00	-	-	-	Project area Detail (C & D)
		Kms	-	-	1.25	-	-
		Kms	-	-	-	-	-
	Sub Total		9.00	-	-	-	-
ii)	LT (Bare ACSR to LT AB cable)		-	-	-	-	-
		Kms	113.72	-	-	-	Project area Detail (C & D)
		Kms	-	65.50	4.93	322.92	Hisar Circle Detail (I)
		Kms	-	-	-	-	-
	Sub Total		80.72	65.50	-	322.92	-
	Total		89.72	65.50	-	322.92	-
K	UG Cable		-	-	-	-	-
i)	HT		-	-	-	-	-
	3x300Sqmm	Kms	-	-	31.64	-	Hisar Circle Detail (J)
		Kms	-	-	-	-	-
		Kms	-	-	-	-	-
	Sub Total		-	-	-	-	-
ii)	LT		-	-	-	-	-
		Kms	-	-	-	-	-
		Kms	-	-	-	-	-
		Kms	-	-	-	-	-
	Sub Total		-	-	-	-	-
	Total		-	-	-	-	-

L	11 KV Bay Extension		-	-	-	-	-
		Kms	-	-	-	-	-
		Kms	-	-	-	-	-
		Kms	-	-	-	-	-
	Sub Total		-	-	-	-	-
M	Installation of Distribution Transformer		-	-	-	-	-
		Nos.	872	-	-	-	Project area Detail (C & D)
	Proposed 100 KVA T/F = 76 Nos. (7.6 MVA)	Nos.	-	76	2.24	170.24	Hisar Circle Detail (K)
	Proposed 200 KVA T/F = 15 Nos. (3 MVA)	Nos.	-	15	3.97	59.55	Hisar Circle Detail (K)
	Sub Total		872	91	-	229.79	-
N	Capacity enhancement of LT sub-station		-	-	-	-	-
		Nos.	-	-	15.03	-	-
		Nos.	-	-	-	-	-
		Nos.	-	-	-	-	-
	Sub Total		-	-	-	-	-
O	LT Line : New Feeder/ Feeder Bifurcation		-	-	-	-	-
		Kms	113.72	-	5.21	-	Project area Detail (C & D)
		Kms	-	53.50	-	278.74	-
		Kms	-	-	-	-	-
	Sub Total		113.72	53.50	-	278.74	-
P	LT Line : Augmentation/Reconductoring		-	-	-	-	-
		Kms	-	-	4.29	-	-
		Kms	-	-	-	-	-
		Kms	-	-	-	-	-
	Sub Total		-	-	-	-	-
Q	Capacitor Bank		-	-	-	-	-
		MVAR	7.20	-	4.25	-	Project area Detail (B)
		Nos.	-	-	-	-	-
		Nos.	-	-	-	-	-
	Sub Total		7.20	-	-	-	-
R	HVDS		-	-	-	-	-
		Nos.	-	-	1.45	-	-
		Nos.	-	-	-	-	-
		Nos.	-	-	-	-	-
	Sub Total		-	-	-	-	-
S	Metering		-	-	-	-	-
	i) Prepaid / smart meters in Govt. establishment	Nos.	-	138.00	0.12	16.56	Hisar Circle Detail (L)
	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.	18,424	3,820	0.03	114.60	-
	vi) Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.	-	-	-	-	-
	Sub Total		18,424	3,958	0.15	131.16	-
T	Provisioning of solar panel		-	-	-	-	-

	Location 1 /(Capacity)	KWe	-	3.00	1.00	3.00	Hisar Circle Detail (M)
	Location 2 /(Capacity)	KWe	-	-	-	-	-
	Location 3 /(Capacity)	KWe	-	-	-	-	-
	Net-Meters	Nos.	-	-	-	-	-
	Sub Total		-	3.00	-	3.00	-
			-	-	-	-	-
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		-	-	-	-	-
V	Others (Distribution T/Fs. -R&M)		-	-	-	-	-
			751.00	-	0.15	-	-
	Sub Total		751.00	-	-	-	-
	Grand Total		-	-	-	1,233.60	-

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 furnis****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)
1	HISAR	ADAMPUR	0	0
2	HISAR	NARNAUND	0	0
3	HISAR	RATIA	0	0
4	HISAR	BHUNA	0	0
Sub Total			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 (
1	HISAR	ADAMPUR	0	0
2	HISAR	NARNAUND	0	0
3	HISAR	RATIA	0	0
4	HISAR	BHUNA	0	0
Sub Total			0	0

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

Sr No.	Circle	IPDS Town	Exisitng capacity of Power Transformer	Proposed capacity of Power Transformer (MVA)
1	HISAR	ADAMPUR	0	0
2	HISAR	NARNAUND	0	0
3	HISAR	RATIA	0	0
4	HISAR	BHUNA	0	0
Sub Total			0	0

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

Sr No.	Circle	New Feeder/ Bifurcatoin	EHV Substation (Feeding source)	Proposed Name of the feeder (Conductor Size 150 Sqmm)
1	HISAR	-	-	-
2	HISAR	-	-	-
3	HISAR	-	-	-
4	HISAR	-	-	-
Sub Total				

F. 33 KV feeders Reconductoring/Augmentation

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 150 Sqmm)
1	ADAMPUR	-	-	-
2	NARNAUND	-	-	-
3	RATIA	-	-	-
4	BHUNA	-	-	-
Sub Total				

G. 11 kV Line : New Feeder/ Feeder Bifurcation

Sr No.	IPDS Town	New Feeder/ Bifurcain	EHV Substation (Feeding Source)	No. of the feeder (Conductor Size 100 Sqmm)
1	ADAMPUR	Bifurcation	132 KV Adampur	2
2	NARNAUND	Bifurcation	132 KV Narnaund	1
3	RATIA	Bifurcation	33 KV Ratia	3
4	BHUNA	Bifurcation	220 KV Bhuna	1
Sub Total				

H.11 kV Line : Augmentation/Reconductoring

Sr No.	IPDS Town	Augmentation/ Reconductoring	EHV Substation (Feeding Source)	No. of the feeder (Conductor Size 100 Sqmm)
1	ADAMPUR	Augmentation	132 KV Adampur	0
2	NARNAUND	Augmentation	132 KV Narnaund	1
3	RATIA	Augmentation	33 KV Ratia	4
4	BHUNA	Augmentation	220 KV Bhuna	2
Sub Total				

I. Arial Bunched Cable (LT)

Sr No.	IPDS Town	Size of Cable (3Cx120 +1x70 Sqmm)	EHV Substation (Feeding Source)	No. of the feeder
1	ADAMPUR	(3Cx120 +1x70 Sqmm)	132 KV Adampur	2
2	NARNAUND	(3Cx120 +1x70 Sqmm)	132 KV Narnaund	1
3	RATIA	(3Cx120 +1x70 Sqmm)	33 KV Ratia	4
4	BHUNA	(3Cx120 +1x70 Sqmm)	220 KV Bhuna	2
Sub Total				

J.UG Cable

Sr No.	IPDS Town	Size of Cable	EHV Substation (Feeding Source)	No. of the feeder
1	ADAMPUR	3x300Sqmm	132 KV Adampur	2
2	NARNAUND	3x300Sqmm	132 KV Narnaund	1
3	RATIA	3x300Sqmm	33 KV Ratia	3
4	BHUNA	3x300Sqmm	220 KV Bhuna	0
Sub Total				

K. Installation of Distribution Transformer

Sr No.	Circle	IPDS Town	Feeding Souce (EHV Substation)	No. of 11 kV Feeder
1	Hisar Circle	ADAMPUR	132 KV Adampur	3
2	Hisar Circle	NARNAUND	132 KV Narnaund	1
3	Hisar Circle	RATIA	33 KV Ratia	4
4	Hisar Circle	BHUNA	220 KV Bhuna	2
Sub Total				
				Total Cost

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

Sr No.	IPDS Town	No. of Govt Eshtablishment	Total Nos of Prepaid meter Requirement	Unit rate @ Rs 0.12 Lac / meter
1	ADAMPUR	14	14	1.68
2	NARNAUND	47	47	5.64
3	RATIA	19	19	2.28
4	BHUNA	58	58	6.96
Sub Total			138	16.56

Provision for Solar Panel

Details of 1 kVe Solar panel to be furnished by Town against Proposed New 33 kV Subst
Unit Cost @ Rs 1 Lac per KVE

3 kVe Solar Panel SDO Office Building DHBVN Bhuna

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
1	ADAMPUR	-	-	-
2	NARNAUND	-	-	-
3	RATIA	-	-	-

4	BHUNA	-	-	-
---	-------	---	---	---

hed)

Name of Substation	Unit Cost @Rs 40 lacs/MVA
-	0
-	0
-	0
-	0
	0

Name of Substation	Unit Cost @Rs 14 lacs/MVA
-	0
-	0
-	0
-	0
	0

Name of Substation	Unit Cost @Rs 14 lacs/MVA
-	0
-	0
-	0
-	0
	0

Length of Feeder (Km)	Unit Rate @ Rs 9.95 lac/Km
	0
	0
	0
	0
0	0

Existing size of conductor	Length of Feeder (Km)	Unit Rate @ 7.55 Lac/Km
-		0
-		0
-		0
-		0
	0	0

Length of Feeder (Km)	Unit Rate @ 6.70 Lac/ Km
15	100.50
5	33.50
11	73.70
9	60.30
40	268

Existing size of conductor	Length of	Unit Rate @ 4.66 lac/Km
0	0	0
50 mm ²	19.4	90.40
80/50/30mm ²	27.5	128.15
50/30 mm ²	18	83.88
	64.9	302.43

Length of Feeder (Km)	Unit Rate @ Rs 4.93 lac /Km
14	69.02
10	49.30
8.5	41.91
33	162.69
65.5	322.92

Length of Feeder (Km)	Unit Rate @ Rs 31.64 Lacs/KM
0.5	15.82
0.5	15.82
0.9	28.476
0	0
1.90	60.12

Proposed 100 KVA DTs (Nos)	Unit Rate for 100 KVA DT @ 2.24 lac/ DT	Proposed 200 kVA DTs (Nos)	for 200 KVA DT @3.97
23	51.52	5	19.85
10	22.4	0	0
28	62.72	0	0
15	33.6	10	39.7
			0
76	170.24	15	59.55
229.79			

ation

Unit Rate For 11 kV level
-
-
-

-

POWER FINANCE CORPORATION LTD.
Detail Project Report
Justification / Details of Proposed Works (Separate Sheet for Each TOWN)

A. Details of 33/11 KV Substation : New

Sr No.	Circle	IPDS Town
1	HISR	ADAMPUR
Sub Total		

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

Sr No.	Circle	IPDS Town
1	HISAR	ADAMPUR
Sub Total		

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

Sr No.	Circle	IPDS Town
1	HISAR	ADAMPUR
Sub Total		

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

Sr No.	Circle	New Feeder/ Bifurcatoin
1	HISAR	-
Sub Total		

F. 33 KV feeders Reconductoring/Augmentation

Sr No.	IPDS Town	Augmentation/ Reconductoring
1	ADAMPUR	-
Sub Total		

G. 11 kV Line : New Feeder/ Feeder Bifurcation

Sr No.	Circle	IPDS Town

Sr No.	IPDS Town	New Feeder/ Bifurcatoi
1	ADAMPUR	Bifurcation
2	ADAMPUR	Bifurcation
		Sub Total

H.11 kV Line : Augmentation/Reconductoring

Sr No.	IPDS Town	Augmentation/ Reconductoring
1	ADAMPUR	-
		Sub Total

I. Arial Bunched Cable (LT)

Sr No.	IPDS Town	Size of Cable (3Cx120 +1x70 Sqmm)
1	ADAMPUR	(3Cx120 +1x70 Sqmm)
2	ADAMPUR	(3Cx120 +1x70 Sqmm)
		Sub Total

J.UG Cable

Sr No.	IPDS Town	Size of Cable
1	ADAMPUR	3x300Sqmm
2	ADAMPUR	3x300Sqmm
		Sub Total

K. Installation of Distribution Transformer

Sr No.	Circle	Feeding Souce (EHV Substation)
1	HISAR	132 KV ADAMPUR
2	HISAR	132 KV ADAMPUR
3	HISAR	132 KV ADAMPUR
Sub Total		

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

Sr No.	IPDS Town	Name of Govt Eshtablishment
1	ADAMPUR	Sub Tehsil Adampur
2	ADAMPUR	Manager LIC
3	ADAMPUR	SHO Police Station Adampur
4	ADAMPUR	Head Master G.H.S

5	ADAMPUR	SDO Telephone
6	ADAMPUR	Secy. Sports Rg.
7	ADAMPUR	Secy. Market Committee
8	ADAMPUR	Community Cernter HUDA
9	ADAMPUR	SDO HUDA
10	ADAMPUR	Manager Railway
11	ADAMPUR	Principal Govt. Collage
12	ADAMPUR	Secy. Market Committee
13	ADAMPUR	Secy. Market Committee
14	ADAMPUR	Secy. Market Committee
Sub Total		

M. Provision for Solar Panel

Details of 1 kVe Solar panel to be furnished by Town against Proposed New
Unit Cost @ Rs 1 Lac per KVE

N. Switching Substation (33 kV and 11 kV)

Sr No.	IPDS Town	Name of Substation
1	ADAMPUR	-

to be furnished)

Total Number of Proposed 33 kV substation	Total Capacity of Proposed 33 kV substation (MVA)	Name of Substation	Unit Cost @Rs 40 lacs/MVA
0	0	-	0
			0
0	0		0

Total Number of Additional Power Transformer	Total Capacity of Proposed Additional Power Transformer (Name of Substation	Unit Cost @Rs 14 lacs/MVA
0	0	-	0
			0
0	0		0

Existing capacity of Power Transformer	Proposed capacity of Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
16	0	-	0
			0
16	0		0

EHV Substation (Feeding source)	Proposed Name of the feeder (Conductor Size 150 Sqmm)	Length of Feeder (Km)	Unit Rate @ Rs 9.95 lac/Km
-	-		0
			0
		0	0

EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 150 Sqmm)	Existing size of conductor	Length of Feeder (Km)
-	-	-	
			0

EHV Substation (Feeding	Name of the feeder	Length of Feeder	

EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Length of Feeder (Km)	Unit Rate @ 6.70 Lac/ Km
132 KV Adampur	Industrial Area Feeder	9	60.3
132 KV Adampur	City Feeder	6	40.2
			0
		15	100.5

EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Existing size of conductor	Length of
-	-	-	0
			0
			0

EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 4.93 lac /Km
132 KV ADAMPUR	ADAMPUR	9	44.37
132 KV ADAMPUR	MODEL TOWN	5	24.65
		14	69.02

EHV Substation (Feeding Source)	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 31.64 Lacs/KM
132 KV ADAMPUR	Industrial Area Feeder	0.25	7.91
132 KV ADAMPUR	City Feeder	0.25	7.91
		0.5	15.82

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)
ADAMPUR	8	17.92	0
MODEL TOWN	9	20.16	2
MANDI	6	13.44	3
	23	51.52	5
Total Cost		71.37	

Total Nos of Prepaid meter Requirement	Unit rate @ Rs 0.12 Lac / meter
1	0.12
1	0.12
1	0.12
1	0.12

1	0.12
1	0.12
1	0.12
1	0.12
1	0.12
1	0.12
1	0.12
1	0.12
1	0.12
1	0.12
1	0.12
14	1.68

v 33 kV 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
-		

Unit Rate @ 7.55 Lac/Km
0
0
0

Unit Rate @ 4.66 lac/Km
0
0
0

Unit Rate for 200 KVA DT @3.97
0
7.94
11.91
19.85

POWER FINANCE CORPORATION LTD.**Detail Project Report****Justification / Details of Proposed Works (Separate Sheet for Each TOWN to be furnished)****NARNAUND IPDS TOWN JUSTIFICATION****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	HISAR	NARNAUND	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 (Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	HISAR	NARNAUND	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	HISAR	NARNAUND	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
		0	0	-	0	0
Sub Total			0		0	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	NARNAUND	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	NARNAUND	Bifurcation	132 KV S/STN. NARNAUND	NARNAUND CITY-II	5	33.5

					0	0
Sub Total					5	33.5

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	NARNAUND	Augmentation	132 KV NARNAUND	NARNAUND	50 mm2	19.4	90.40
						0	0
Sub Total						19.4	90.40

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	NARNAUND	(3Cx120 +1x70 Sqmm)	132 KV NARNAUND	LT LINE FROM 11 KV NARNAUND	10	49.3
						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	NARNAUND	3x300Sqmm	132 KV NARNAUND	11 KV NARNAUND	0.5	15.82
						0
Sub Total					0.5	15.82

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	HISAR	132 KV NARNAUND	NARNAUND	10	22.4	0	0
					0		0
Sub Total				10	22.4	0	0
Total Cost				22.4			

L. 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	NARNAUND	Karyakari Adhikari Panchayat Samitti	1	0.12
2	NARNAUND	Karyakari Adhikari Panchayat Samitti	1	0.12
3	NARNAUND	Manager State Bank Narnaund	1	0.12
4	NARNAUND	G.M Haryana Roadwayas	1	0.12
5	NARNAUND	Tehsildar Tehsil Complex	1	0.12
6	NARNAUND	Secretary Muncipal Committee	1	0.12
7	NARNAUND	Manager Haffed C/o Samarth Kumar	1	0.12
8	NARNAUND	SDO W.J.C.	1	0.12
9	NARNAUND	Sub Post Master	1	0.12
10	NARNAUND	Market Commetee	1	0.12

11	NARNAUND	Principal Sen.Sec. School	1	0.12
12	NARNAUND	JTO Teliphone	1	0.12
13	NARNAUND	Secretary Muncipal Committee	1	0.12
14	NARNAUND	Secretary Muncipal Committee	1	0.12
15	NARNAUND	Secretary Muncipal Committee	1	0.12
16	NARNAUND	Secretary Muncipal Committee	1	0.12
17	NARNAUND	Secretary Muncipal Committee	1	0.12
18	NARNAUND	Secretary Market Committee	1	0.12
19	NARNAUND	Secretary Nagar Palika	1	0.12
20	NARNAUND	Co. Operative Society	1	0.12
21	NARNAUND	B.D.O. Office	1	0.12
22	NARNAUND	S.H.O. Police Station	1	0.12
23	NARNAUND	Govt. Girl School Narnaund	1	0.12
24	NARNAUND	Animal Hospital	1	0.12
25	NARNAUND	Market Committee	1	0.12
26	NARNAUND	Mini Bank	1	0.12
27	NARNAUND	Mini Bank	1	0.12
28	NARNAUND	Mini Bank	1	0.12
29	NARNAUND	Sachive Nagar Palika	1	0.12
30	NARNAUND	Tresury Officer	1	0.12
31	NARNAUND	Manager P.N.B.	1	0.12
32	NARNAUND	Kishan Sahukari Co.Op.Society	1	0.12
33	NARNAUND	Kishan Sahukari Co.Op.Society	1	0.12
34	NARNAUND	Kishan Sahukari Co.Op.Society	1	0.12
35	NARNAUND	Govt. Girl Primary School Narnaund	1	0.12
36	NARNAUND	Govt. Primary School Narnaund	1	0.12
37	NARNAUND	Govt. Primary School Narnaund	1	0.12
38	NARNAUND	Govt. Collage C/o Gurdyal Singh	1	0.12
39	NARNAUND	Secretary Muncipal Committee	1	0.12
40	NARNAUND	Secretary Muncipal Committee	1	0.12
41	NARNAUND	Secretary Muncipal Committee	1	0.12
42	NARNAUND	Secretary Muncipal Committee	1	0.12
43	NARNAUND	Secretary Muncipal Committee	1	0.12
44	NARNAUND	Secretary Muncipal Committee	1	0.12
45	NARNAUND	Secretary MARKET Committee	1	0.12
46	NARNAUND	Secretary Muncipal Committee	1	0.12
47	NARNAUND	C.H.C. Hospital Narnaund	1	0.12
Sub Total			47	5.64

M. 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

N. 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
1	NARNAUND	-	-	-	-

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
1	HISAR	RATIA	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 (Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	HISAR	RATIA	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 (MVA)	Proposed capacity of Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	Hisar	Ratia	20	0	-	0
Sub Total			20	0		0

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

Sr No.	Circle	New Feeder/ Bifurcain	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	HISAR	-	-	-	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	RATIA	-	-	-	-	0	0
Sub Total						0	0

G. 11 kV Line : New Feeder/ Feeder Bifurcation

Sr No.	IPDS Town	New Feeder/ Bifurcain	EHV Substation (Feeding Source)	Name of the feeder (Conductor Size 100 Sqmm)	Length of Feeder (Km)	Unit Rate @ 6.70 Lac/ Km
1	RATIA	Bifurcation	33 KV RATIA	FATEHABAD ROAD	4	26.80

Sub Total			28	62.72	0	0
Total Cost			62.72			

L. 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	RATIA	E/O CUM. SECERATARY MARKET COMM. RATIA	1	0.12
2	RATIA	TESHILDAR	1	0.12
3	RATIA	E. DISHA CENTER	1	0.12
4	RATIA	SHO POLICE STATION	1	0.12
5	RATIA	ADHISUCHI SAMETI	1	0.12
6	RATIA	ASSISTANT TRESARY OFFICE	1	0.12
7	RATIA	SMO CHC. LALI ROAD RATIA	1	0.12
8	RATIA	HEAD TEACHER RATIA	1	0.12
9	RATIA	B.D.O RATIA	1	0.12
10	RATIA	HEAD MASTER HIGH SCHOOL	1	0.12
11	RATIA	POLICE STATION	1	0.12
12	RATIA	SEC. MUNCHIPAL COMM	1	0.12
13	RATIA	MANGER DEPO FCI	1	0.12
14	RATIA	SDO WATER SERVICE RATIA	1	0.12
15	RATIA	S/DIVN SDO HUDA	1	0.12
16	RATIA	EO. CUM	1	0.12
17	RATIA	B.R.C D.P.E.P	1	0.12
18	RATIA	HEAD MASTER PRIMARY SCHOOL	1	0.12
19	RATIA	HEAD MASTER PRIMARY SCHOOL	1	0.12
Sub Total			19	2.28

M. 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

N. 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
1	RATIA	-	-	-	-

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
1	HISAR	BHUNA	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 (Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	HISAR	BHUNA	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 (MVA)	Proposed capacity of Power Transformer (MVA)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	HISAR	BHUNA	28.8	3.7	33 KV BHUNA	51.8
Sub Total			28.8	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	HISAR	-	-	-	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	BHUNA	-	-	-	-	0	0
Sub Total							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	BHUNA	Bifurcation	220 KV BHUNA	BHUNA-III	9	60.3
Sub Total						9
						60.3

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	BHUNA	Augmentation	220 KV BHUNA	11 KV BHUNA -1 , 100 mm2	50/30 mm2	8	37.28
2	BHUNA	Augmentation	220 KV BHUNA	11 KV BHUNA -2 , 100 mm2	50/30 mm2	10	46.6
							0
Sub Total						18	83.88

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
1	BHUNA	(3Cx120 +1x70 Sqmm)	220 KV BHUNA	LT LINE FROM 11 KV BHUNA-I FEEDER	14	69.02
2	BHUNA	(3Cx120 +1x70 Sqmm)	220 KV BHUNA	LT LINE FROM 11 KV BHUNA-II FEEDER	19	93.67
						0
Sub Total					33	162.69

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	BHUNA	3x300Sqmm	-	-		0
						0
Sub Total					0	0

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	HISAR	220 KV BHUNA	BHUNA-I	6	13.44	4	15.88
2	HISAR	220 KV BHUNA	BHUNA-II	9	20.16	6	23.82
							0
Sub Total				15	33.6	10	39.7
Total Cost				73.3			

L. 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	BHUNA	SEC MUNICIPAL COMMITTEE BHUNA	1	0.12
2	BHUNA	SEC MUNICIPAL COMMITTEE BHUNA	1	0.12
3	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
4	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
5	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
6	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
7	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
8	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
9	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
10	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12

11	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
12	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
13	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
14	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
15	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
16	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
17	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
18	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
19	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
20	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
21	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
22	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
23	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
24	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
25	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
26	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
27	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
28	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
29	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
30	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
31	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
32	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
33	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
34	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
35	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
36	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
37	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
38	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
39	BHUNA	SARPANCH GRAM PANCHYAT	1	0.12
40	BHUNA	SDO PWD	1	0.12
41	BHUNA	SHO POLIC STATION	1	0.12
42	BHUNA	HEAD MASTER HOGH SCHOOL	1	0.12
43	BHUNA	VETENARY HOSPITAL	1	0.12
44	BHUNA	MANAGER HAFED	1	0.12
45	BHUNA	SDO PWD	1	0.12
46	BHUNA	SEC. MARKET COMMITTEE	1	0.12
47	BHUNA	MANAGER HARYANA ROADWAYS	1	0.12
48	BHUNA	SEC. MARKET COMMITTEE	1	0.12
49	BHUNA	BLOCK SAMITI	1	0.12
50	BHUNA	SEC. MARKET COMMITTEE	1	0.12
51	BHUNA	MANAGER STATE WERE HOUSE	1	0.12
52	BHUNA	ASSISTANT TREASURY OFFICE	1	0.12
53	BHUNA	CO-OPRATIVE SOCIETY B.R.C.	1	0.12
54	BHUNA	MANAGER HAFED	1	0.12
55	BHUNA	CO-OP AGRICULTURE	1	0.12
56	BHUNA	CO-OP AGRICULTURE	1	0.12
57	BHUNA	BLOCK SAMITI	1	0.12
58	BHUNA	ASSISTANT DEVELOPMENT OFFICES	1	0.12
Sub Total			58	6.96

M. 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

N. 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
1	BHUNA	-	-		

POWER FINANCE CORPORATION LTD.**Detail Project Report**

Volume IIa: SUMMARY Project Cost

ADAMPUR TOWN**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	0	0.00
B	33/11 KV S/S : Additional Transformer	Nos.	0	0.00
C	33/11 KV S/S : Transformer capacity enhancement	Nos.	0	0.00
D	Renovation & Modernisation of 33/11 kV SS	Nos.	0	0.00
E	New 33 KV new feeders/Bifurcation of feeders:	Kms	0	0.00
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	15	100.50
I	11 kV Line : Augmentation/Reconductoring	Kms	0	0.00
J	Arial Bunched Cable	Kms	14	69.02
K	UG Cable	Kms	0	0.00
L	11 KV Bay Extension	Kms	0	0.00
M	Installation of Distribution Transformer	Nos.	28	71.37
N	Capacity enhancement of LT sub-station	Nos.	0	0.00
O	LT Line : New Feeder/ Feeder Bifurcation	Kms	3	15.63
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.	1114	34.68
T	Provisioning of solar panel	Lot	0	0.00
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0.00
V	Others (Distribution T/Fs. -R&M)	Lot	0	0.00
	GRAND TOTAL			291.20

POWER FINANCE CORPORATION LTD.

Detail Project Report

Estimated Project Cost - Bill of Quantities

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

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	132 KV Adampur (10/16 MVA 132/11 KV)	Nos	1			
2		Nos				
3		Nos.				
	Sub Total		1			
B 33/11 KV S/S : Additional Transformer						
1	T-1 (10/16 MVA, 132/11 KV) Installed at 132 KV S/Stn. Adampur	Nos.	1			
2		Nos.				
3		Nos.				
	Sub Total		1			
C 33/11 KV S/S : Transformer capacity enhancement						
1	T-1 (10/16 MVA, 132/11 KV) Installed at 132 KV S/Stn. Adampur	MVA	16			
2		MVA				
3		MVA				
	Sub Total		16			
D Renovation & Modernisation of 33/11 kV SS						
1		Nos.				
2		Nos.				
3		Nos.				
	Sub Total		0			
E New 33 KV new feeders/Bifurcation of feeders:						
1		Kms				
2		Kms				
3		Kms				
	Sub Total		0.00			
F 33 KV feeders Reconductoring/Augmentation						
1		Kms				
2		Kms				
3		Kms				
	Sub Total		0			
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	Adampur- 26 KM (Size of ACSR 80/50/30 mm2)	Kms				
	Model Town- 26 KM (Size of ACSR 80/50/30 mm2)		67			
	Mandi- 15 KM (Size of ACSR 80/50/30 mm2)					
2	Bifurcation (Size of ACSR 100 mm2)	Kms		15	6.70	100.50
3		Kms			-	
	Sub Total		67	15	-	100.50
I	11 kV Line : Augmentation/Reconductoring					-
1		Kms				
2		Kms				
3		Kms				
	Sub Total		0.00			
J	Arial Bunched Cable					-
i)	HT					-
		Kms			1.25	
		Kms			-	
		Kms			-	
	Sub Total		0	0	-	0
ii)	LT (Bare ACSR to LT AB cable)					-
	Existing LT Line 29 KM	Kms	29.00	0	-	
	Proposed LT Line (Bare ACSR to LT AB cable)	Kms		14	4.93	69.02
		Kms			-	
	Sub Total		29.00	14	-	69.02
	Total		29.00	14	-	69.02
K	UG Cable					-
i)	HT					
		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	0		-	0
						-	
M	Installation of Distribution Transformer					-	
	Existing 5 KVA = 4 (0.020 MVA)						
	Existing 25 KVA = 16 (0.400 MVA)						
	Existing 63 KVA = 14 (0.882 MVA)						
	Existing 100 KVA = 50 (5.000 MVA)		123			-	
	Existing 200 KVA = 29 (5.800 MVA)						
	Existing 250 KVA = 4 (1.000 MVA)						
	Existing 300 KVA = 6 (1.800 MVA)	Nos.					
	Proposed 100 KVA T/F = 23 Nos. (2.3 MVA)	Nos.			23	2.24	51.52
	Proposed 200 KVA T/F = 5 Nos. (1 MVA)	Nos.			5	3.97	19.85
		Sub Total	123	28		-	71.37
						-	
N	Capacity enhancement of LT sub-station					-	
		Nos.					
		Nos.					
		Nos.					
		Sub Total	0				
O	LT Line : New Feeder/ Feeder Bifurcation					-	
	Adampur - 14 KM	Kms					
	Mandi - 11 KM		29			-	-
	Model Town - 4 KM						
	LT Line Proposed = 3 KM	Kms			3	5.21	15.63
		Kms				-	
		Sub Total	29	3.00		-	15.63
P	LT Line : Augmentation/Reconductoring					-	
		Kms					
		Kms					
		Kms					
		Sub Total	0				
Q	Capacitor Bank					-	
		MVAR					
		Nos.					
		Nos.					
		Sub Total	0.0				
R	HVDS					-	
		Nos.	0				
		Nos.					
		Nos.					
		Sub Total	0				
S	Metering					-	
	i) Prepaid / smart meters in Govt. establishment	Nos.			14	0.12	1.68

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.	7311	1100		0.03	33.00
vi)	Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.				-	
	Sub Total		7311	1114		0.15	34.68
T	Provisioning of solar panel					-	
	Location 1 /(Capacity)	KWe	0				
	Location 2 /(Capacity)	KWe					
	Location 3 /(Capacity)	KWe					
	Net-Meters	Nos.					
	Sub Total		0				
						-	
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 (Distribution T/Fs. -R&M)					-	
			150				
	Sub Total		150				
	Grand Total					-	291.20

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

POWER FINANCE CORPORATION LTD.**Detail Project Report**

Volume Ila: SUMMARY Project Cost

NARNAUND TOWN

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	0	0.00
B	33/11 KV S/S : Additional Transformer	Nos.	0	0.00
C	33/11 KV S/S : Transformer capacity enhancement	MVA	0	0.00
D	Renovation & Modernisation of 33/11 kV SS	Nos.	0	0.00
E	New 33 KV new feeders/Bifurcation of feeders:	Kms	0	0.00
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	5	33.50
I	11 kV Line : Augmentation/Reconductoring	Kms	0	0.00
J	Arial Bunched Cable	Kms	10	49.30
K	UG Cable	Kms	0.0	0.00
L	11 KV Bay Extension	Kms	0	0.00
M	Installation of Distribution Transformer	Nos.	10.00	22.40
N	Capacity enhancement of LT sub-station	Nos.	0	0.00
O	LT Line : New Feeder/ Feeder Bifurcation	Kms	10.00	52.10
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.	1247	41.64
T	Provisioning of solar panel	Lot	0	0.00
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0.00
V	Others (Distribution T/Fs. -R&M)	Lot	0	0.00
	GRAND TOTAL			198.94

POWER FINANCE CORPORATION LTD.

Detail Project Report

Estimated Project Cost - Bill of Quantities

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

Bill of Quantities

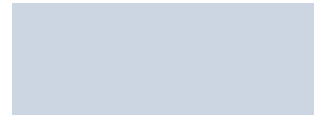
S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS
					Rs. Lac	Rs. Lac
A	33/11 KV S/S : New					
1	132 KV Narnaund (132/11 KV, 10/16 MVA)	Nos		1		
2		Nos				
3		Nos.				
	Sub Total			1		
B	33/11 KV S/S : Additional Transformer					
1	T-2 (10/16 MVA, 132/11) Installed at 132 KV S/Stn. Narnaund	Nos.		1		
2		Nos.				
3		Nos.				
	Sub Total			1		
C	33/11 KV S/S : Transformer capacity enhancement					
1	T-2 (10/16 MVA, 132/11) Installed at 132 KV S/Stn. Narnaund	MVA		16		
2		MVA				
3		MVA				
	Sub Total			16		
D	Renovation & Modernisation of 33/11 kV SS					
1		Nos.				
2		Nos.				
3		Nos.				
	Sub Total			0		
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		Kms				
2		Kms				
3		Kms				
	Sub Total			0		
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	Narnaund-19.40 KM (Size of ACSR 50 mm2)	Kms	19.40			
2	(Size of ACSR 100 mm2) NARNAUND CITY-II	Kms		5.00	6.70	33.50
3		Kms			-	
		Sub Total	19.40	5.00	-	33.50
I	11 kV Line : Augmentation/Reconductoring					-
1	(Augmentation 50 mm2 with 100 mm2)	Kms				
2		Kms				
3		Kms				
		Sub Total	0.00			
J	Arial Bunched Cable					-
i)	HT					-
	Narnaund -5 KM	Kms	5.00			
		Kms				-
		Kms				-
		Sub Total	5	0	-	0
ii)	LT (Bare ACSR to LT AB cable)					-
	Existing LT Line 24.72 KM	Kms	24.72			-
	LT Line (Bare ACSR to LT AB cable)	Kms		10	4.93	49.30
		Kms				-
		Sub Total	25	10	-	49.30
		Total	30	10	-	49.30
K	UG Cable					-
i)	HT					
		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			
M	Installation of Distribution Transformer				-	
	Existing 25 KVA = 166 (4.150 MVA)		215		-	-
	Existing 63 KVA = 6 (0.378 MVA)					
	Existing 100 KVA = 38 (3.800 MVA)					
	Existing 200 KVA = 5 (1.000 MVA)	Nos.				
	Proposed 100 KVA T/F = 10 Nos. (1 MVA)	Nos.		10	2.24	22.40
		Nos.			-	
	Sub Total		215	10	-	22.40
N	Capacity enhancement of LT sub-station				-	
		Nos.				
		Nos.				
		Nos.				
	Sub Total		0			
O	LT Line : New Feeder/ Feeder Bifurcation				-	
	Existing LT Line -24.72	Kms	24.72		-	-
	Proposed LT Line - 10 KM	Kms		10	5.21	52.10
		Kms			-	
	Sub Total		24.72	10.00	-	52.10
P	LT Line : Augmentation/Reconductoring				-	
	Augmentation with Cable (ACSR to Armored Cable Single Core)	Kms				
		Kms				
		Kms				
	Sub Total		0			
Q	Capacitor Bank				-	
		Nos.	0			
		Nos.				
		Nos.				
	Sub Total		0			
R	HVDS				-	
		Nos.				
		Nos.				
		Nos.				
	Sub Total		0			
S	Metering				-	
	i) Prepaid / smart meters in Govt. establishment	Nos.		47	0.12	5.64
	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.	3863	1200		0.03	36.00
vi)	Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.				-	
	Sub Total		3863	1247		0.15	41.64
T	Provisioning of solar panel					-	
	Location 1 /(Capacity)	KWe	0				
	Location 2 /(Capacity)	KWe					
	Location 3 /(Capacity)	KWe					
	Net-Meters	Nos.					
	Sub Total		0				
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 (Distribution T/Fs. -R&M)					-	
			67				
	Sub Total		67				
	Grand Total					-	198.94

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



TOWN

Reference
Annx No.

Project area Detail (D)
Narnaund Detail (K)
Project area Detail (D)
Narnaund Detail (L)

POWER FINANCE CORPORATION LTD.**Detail Project Report**

Volume IIa: SUMMARY Project Cost

BHUNA TOWN

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	0	0.00
B	33/11 KV S/S : Additional Transformer	Nos.	0	0.00
C	33/11 KV S/S : Transformer capacity enhancement	Nos.	0	0.00
D	Renovation & Modernisation of 33/11 kV SS	Nos.	0	0.00
E	New 33 KV new feeders/Bifurcation of feeders:	Kms	0	0.00
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	9.00	60.30
I	11 kV Line : Augmentation/Reconductoring	Kms	0.00	0.00
J	Arial Bunched Cable	Kms	33	162.69
K	UG Cable	Kms	0	0.00
L	11 KV Bay Extension	Kms	0	0.00
M	Installation of Distribution Transformer	Nos.	25.00	73.30
N	Capacity enhancement of LT sub-station	Nos.	0	0.00
O	LT Line : New Feeder/ Feeder Bifurcation	Kms	14.00	72.94
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.	1198	41.16
T	Provisioning of solar panel	Lot	3	3.00
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0.00
V	Others (Distribution T/Fs. -R&M)	Lot	0	0.00
	GRAND TOTAL			413.39

POWER FINANCE CORPORATION LTD.

Detail Project Report

Estimated Project Cost - Bill of Quantities

For Non R-APDRP Towns (Separate BOQ sheet to be furnished for each town) BHUNA 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	220 KV Bhuna (132/11 KV 12.5 MVA)	Nos		1			
2		Nos					
3		Nos.					
	Sub Total			1			
B	33/11 KV S/S : Additional Transformer						
1	T-3 (12.5 MVA) Installed at 220 KV S/Stn. Bhuna	Nos.		1			
2		Nos.					
3		Nos.					
	Sub Total			1			
C	33/11 KV S/S : Transformer capacity enhancement						
1	T-3 (12.5 MVA) Installed at 220 KV S/Stn. Bhuna	MVA		12.50			
2		MVA					
3		MVA					
	Sub Total			12.50			
D	Renovation & Modernisation of 33/11 kv SS						
1		Nos.					
2		Nos.					
3		Nos.					
	Sub Total			0			
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		Kms					
2		Kms					
3		Kms					
	Sub Total			0			
G	33 kv Line Bay Extension at EHV station						
1		Nos					
2		Nos					

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.
3		Nos					
	Sub Total			0			
H	11 kV Line : New Feeder/ Feeder Bifurcation				-		
1	Bhuna-I=20 KM (Size of ACSR 50/30 mm2) Existing	Kms	35.00		-	-	Project area Detail (D)
2	Bhuna-II=15 KM (Size of ACSR 50/30 mm2) Existing	Kms		9.00	6.70	60.30	Bhuna Detail (G)
3	(Size of ACSR 100 mm2) BHUNA-III	Kms			-	-	
	Sub Total		35.00	9.00	-	60.30	
I	11 kV Line : Augmentation/Reconductoring				-		
1	Bhuna-I & II (Augmentation 50 mm2 with 100 mm2)	Kms					
2		Kms					
3		Kms					
	Sub Total		0.00				
J	Arial Bunched Cable				-		
i)	HT				-		
		Kms		0			
		Kms			-		
		Kms			-		
	Sub Total		0	0	-	0	
ii)	LT (Bare ACSR to LT AB cable)				-		
	Existing LT Line 33.00 KM	Kms	33				Project area Detail (D)
	Bhuna-I & II LT Line (Bare ACSR to LT AB cable)	Kms		33	4.93	162.69	Bhuna Detail (I)
		Kms			-	-	
	Sub Total			33	-	162.69	
	Total			33	-	162.69	
K	UG Cable				-		
i)	HT						
		Kms					
		Kms					
		Kms					
	Sub Total		0				
ii)	LT						
		Kms					
		Kms					
		Kms					
	Sub Total		0				
	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.
L	11 KV Bay Extension				-		
		Kms					
		Kms					
		Kms					
	Sub Total			0			
M	Installation of Distribution Transformer				-		
	Existing 25 KVA = 45 (1.125 MVA)						
	Existing 63 KVA = 54 (3.402 MVA)						
	Existing 100 KVA = 43 (4.300 MVA)						
	Existing 200 KVA = 5 (1.000 MVA)						
	Existing 400 KVA = 5 (2.000 MVA)	Nos.		152	-	-	Project area Detail (D)
	Proposed 100 KVA T/F = 15 Nos. (1.5 MVA)	Nos.		15	2.24	33.60	Bhuna Detail (K)
	Proposed 200 KVA T/F = 10 Nos. (2 MVA)	Nos.		10	3.97	39.70	
	Sub Total			152	25	-	73.30
N	Capacity enhancement of LT sub-station				-		
		Nos.					
		Nos.					
		Nos.					
	Sub Total			0			
O	LT Line : New Feeder/ Feeder Bifurcation				-		
	Bhuna-I=14 KM	Kms		33	-	-	Project area Detail (D)
	Bhuna-II= 19 KM						
	Proposed LT Line = 14 KM (Bhuna-I 6 KM+Bhuna-II 8)	Kms		14	5.21	72.94	
		Kms			-	-	
	Sub Total			33	14	-	72.94
P	LT Line : Augmentation/Reconductoring				-		
		Kms					
		Kms					
		Kms					
	Sub Total			0			
Q	Capacitor Bank				-		
		MVAR					
		Nos.					
		Nos.					
	Sub Total			0			
R	HVDS				-		
		Nos.					
		Nos.					
		Nos.					
	Sub Total			0			
S	Metering				-		

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.
i)	Prepaid / smart meters in Govt. establishment	Nos.		58	0.12	6.96	Bhuna Detail (L)
ii)	AMI, Smart meters in the towns where SCADA being established under R-APDRP.	Nos.			-		

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.
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.	6018	1140	0.03	34.20	
vi)	Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.			-		
	Sub Total		6018	1198.00	0.15	41.16	
T	Provisioning of solar panel				-		
	Location 1 /(Capacity)	KWe	0	3	1.00	3.00	Bhuna Detail (M)
	Location 2 /(Capacity)	KWe			-		
	Location 3 /(Capacity)	KWe			-		
	Net-Meters	Nos.			-		
	Sub Total		0	3	-	3.00	
					-		
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 (Distribution T/Fs. -R&M)		0		-	-	
			152				
	Sub Total		152				
	Grand Total				-	413.39	

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

POWER FINANCE CORPORATION LTD.**Detail Project Report**

Volume IIa: SUMMARY Project Cost

RATIA TOWN

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	0	0.00
B	33/11 KV S/S : Additional Transformer	Nos.	0	0.00
C	33/11 KV S/S : Transformer capacity enhancement	Nos.	0	0.00
D	Renovation & Modernisation of 33/11 kV SS	Nos.	0	0.00
E	New 33 KV new feeders/Bifurcation of feeders:	Kms	0	0.00
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	11.00	73.70
I	11 kV Line : Augmentation/Reconductoring	Kms	0.00	0.00
J	Arial Bunched Cable	Kms	9	41.91
K	UG Cable	Kms	0.0	0.00
L	11 KV Bay Extension	Kms	0	0.00
M	Installation of Distribution Transformer	Nos.	28.00	62.72
N	Capacity enhancement of LT sub-station	Nos.	0	0.00
O	LT Line : New Feeder/ Feeder Bifurcation	Kms	26.50	138.07
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.	399	13.68
T	Provisioning of solar panel	Lot	0	0.00
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0.00
V	Others (Distribution T/Fs. -R&M)	Lot	0	0.00
	GRAND TOTAL			330.07

POWER FINANCE CORPORATION LTD.

Detail Project Report

Estimated Project Cost - Bill of Quantities

For Non R-APDRP Towns (Separate BOQ sheet to be furnished for each town) RATIA 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 Ratia (2x10 MVA)	Nos	1				
2		Nos					
3		Nos.					
	Sub Total			1			
B	33/11 KV S/S : Additional Transformer						
1	T-1 (10 MVA)	Nos.	2				
2	T-2 (10 MVA)	Nos.					
3		Nos.					
	Sub Total			2			
C	33/11 KV S/S : Transformer capacity enhancement						
1	10 MVA	MVA	20				
2	10 MVA	MVA					
3		MVA					
	Sub Total			20			
D	Renovation & Modernisation of 33/11 kV SS						
1		Nos.					
2		Nos.					
3		Nos.					
	Sub Total						
E	New 33 KV new feeders/Bifurcation of feeders:						
1	33 KV Ratia Line - 0.6 KM	Kms	0.6				
2	33 KV Line from 132 KV Ratia to 33 KV Ratia (Size of ACSR 130 mm2)	Kms					
3		Kms					
	Sub Total			0.6			
F	33 KV feeders Reconductoring/Augmentation						
1		Kms					
2		Kms					
3		Kms					
	Sub Total			0			
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	City-I = 20 KM (Size of ACSR 80/50/30 mm2) City-II = 17 KM (Size of ACSR 80/50/30 mm2) City-III = 25 KM (Size of ACSR 80/50/30 mm2) City-IV = 12 KM (Size of ACSR 80/50/30 mm2)	Kms	74.00			-	Project area Detail (C)
2	Proposed Bifurcation (Size of ACSR 100 mm2)	Kms		11	6.70	73.70	Ratio Detail (G)
3		Kms				-	
	Sub Total		74	11		73.70	
I	11 kV Line : Augmentation/Reconductoring					-	
1	(Augmentation 30/50 mm2 with 100 mm2)	Kms					
2		Kms					
3		Kms					
	Sub Total		0.00				
J	Arial Bunched Cable					-	
i)	HT					-	
	City-I = 2 KM	Kms	4.00			-	Project area Detail (D)
	City-II = 2 KM	Kms				-	
		Kms				-	
	Sub Total		4	0		0	
ii)	LT (Bare ACSR to LT AB cable)					-	
	Existing LT Line 27.00 KM	Kms	27.00			-	Project area Detail (C)
	LT Line (Bare ACSR to LT AB cable)	Kms		8.5	4.93	41.91	Ratio Detail (I)
		Kms				-	
	Sub Total		27	8.5		41.91	
	Total		31	8.5		41.91	
K	UG Cable					-	
i)	HT						
		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				
M	Installation of Distribution Transformer					-		
	Existing 25 KVA = 178 (4.450 MVA)							
	Existing 63 KVA = 68 (4.284 MVA)							
	Existing 100 KVA = 123 (12.300 MVA)							
	Existing 200 KVA = 13 (2.600 MVA)	Nos.		382		-	-	Project area Detail (C)
	Proposed 100 KVA T/F = 28 Nos. (2.8 MVA)	Nos.			28	2.24	62.72	Ratia Detail (K)
		Nos.				-		
	Sub Total			382	28	-	62.72	
N	Capacity enhancement of LT sub-station					-		
		Nos.						
		Nos.						
		Nos.						
	Sub Total			0				
O	LT Line : New Feeder/ Feeder Bifurcation					-		
	City-I = 9 KM	Kms						
	City-II = 10 KM							
	City-II = 5 KM							
	City-IV = 3 KM							
	Proposed LT Line = 18 KM	Kms			26.50	5.21	138.07	
		Kms				-		
	Sub Total			27	26.50	-	138.07	Project area Detail (C)
P	LT Line : Augmentation/Reconductoring					-		
		Kms						
		Kms						
		Kms						
	Sub Total			0				
Q	Capacitor Bank					-		
	33 KV Ratia P-T/F-1 (3.6 MVAR) (1 No.)	MVAR		7.2				
	33 KV Ratia P-T/F-2 (3.6 MVAR) (1 No.)	Nos.						
		Nos.						
	Sub Total			7.2				
R	HVDS					-		
		Nos.						
		Nos.						
		Nos.						
	Sub Total			0				
S	Metering					-		
	i) Prepaid / smart meters in Govt. establishment	Nos.			19	0.12	2.28	Ratia Detail (L)
	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.	1232	380		0.03	11.40	
vi)	Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.				-		
	Sub Total		1232	399		0.15	13.68	
T	Provisioning of solar panel					-		
	Location 1 /(Capacity)	KWe	0					
	Location 2 /(Capacity)	KWe						
	Location 3 /(Capacity)	KWe						
	Net-Meters	Nos.						
	Sub Total		0					
						-		
U	RMU,Sectionaliser, Auto reclosures, FPI etc.					-		
i)	33 kV Line : Installation of switchable breaker/switches	Nos.				-		
ii)	33 kV Line : Installation of commnicable/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 (Distribution T/Fs. -R&M)					-		
			382					
	Sub Total		382					
	Grand Total					-	330.07	

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

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	%	31.82%
FY 15-16	%	30.00%
FY 16-17	%	28.50%
FY 17-18	%	27.00%
FY 18-19	%	26.00%
FY 19-20	%	25.00%
FY 20-21	%	24.00%
FY 21-22	%	23.00%

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.

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676

9207

607