

**INTEGRATED POWER DEVELOPMENT SCHEME**  
**(IPDS)**

**State**

HARYANA

**Name of Govt Utility  
Implementing Project**

DHBVN

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

NARNAUL/Delhi/DHBVN

**Detail Project Report**

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

**Ref no. of DPR**

IPDS/DHBVN/NARNAUL

Submitted to

**POWER FINANCE CORPORATION LTD.**

**Date of Submission**

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

<b>Utility Details</b>		
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)		
<b>Contact Details of Nodal Officer (Govt Utility Implementing Project)</b>		
Name	Er. K.K Gupta	
Designation	CE PD&C	
Address	Vidyut Sadan DHBVN, Hisar	
Phone Office	01662-223216	
Mobile No.	9812452524	
Fax	01662-223181	
E-mail	<a href="mailto:cepdcdhbvn@gmail.com">cepdcdhbvn@gmail.com</a>	
Utility level AT&C loss	Unit	AT&C Loss for FY 2014-15
AT&C loss as provided by PFC in latest "Report on Performance of State Power Utilities"	%	24.09%
<b>Project Area Details</b>		
Name of the Project Area Circle/ Zone/ Utility)	NARNAUL/Delhi/DHBVN	
Nos. of towns covered	3	
Total Population of all towns covered in project area	90774	
Nos. of Consumers in all towns covered in the project area	15632	
<b>Contact Details of Project Area Incharge (Govt/Govt Authorised Agency)</b>		
Name	Er. Naveen Kumar Verma	
Designation	S.E.	
Address	OP Circle, DHBVN, Narnaul	
Phone Office	01282-251296	
Mobile No.	8059888333	
Fax	01282-250900	
E-mail	<a href="mailto:se.narnaul@gmail.com">se.narnaul@gmail.com</a>	
Data for AT&C Losses Computation for Project Area (All statutory towns of the Circle/ Zone/ Utility)	Unit	Data for Previous FY 14-15
Energy Input	M Units	590.87
Energy Sales	M Units	336.81
Total Revenue Billed	Rs. Lac	2551.20
Total Revenue Collected (excluding arrears)	Rs. Lac	2396.50
Billing Efficiency	%	57.00%
Collection Efficiency	%	93.94%
AT&C Losses	%	46.45%
<b>Dedicated team:</b>		
HQ Level	Field Level	
Name & Designation	Er. Avinash Yadav, XEN/Op Division DHBVN, Narnaul	
Er. R.K Sodha, Vidyut sadan, Hisar	Er. Ranbir Singh, XEN/Op Division DHBVN, Mohindergarh.	
Date of Submission of Proposal	Date	
DPR Ref No.	No.	IPDS/DHBVN/NARNAUL
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 <b>urban areas</b> (Statutory Towns) <b>only</b>
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 <b>thirty months</b> 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	<b>Additional Guideline for DPR preparation</b>
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 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 bounadry 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 sytem & 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 on 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. Naveen Kumar Verma

Tel. No. / Mobile No. : 8059888333

Designation: S.E. OP Circle DHBVN, Narnaul

Email address : se.narnaul@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 (IPDS) Detail Report (DPR) for strengthening of sub-transmission and distribution network, segregation, distribution transformer and metering etc. to ensure uninterrupted reliable energy have been discussed in the District Electricity Committee.

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

Sr. No.	Name		Designation of DEC	Signature
1.	Sh. Dharmbir Singh	Senior most MP	Chairman	
2.	Sh. Atul Kumar, IAS	DC	Convener	
3.	Sh. Rambilash Sharma	MLA	Member	
4.	Smt. Santosh Yadav	MLA	Member	
5.	Dr. Abhay Singh Yadav	MLA	Member	
6.	Sh. Om Parkash Yadav	MLA	Member	
7.	Sh. Naveen Kumar Verma	S.E/OP	Member Secretary	



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# POWER FINANCE CORPORATION LTD.

## Detail Project Report

### Executive Summary

<b>Project objective:-</b>	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
<b>Tripartite/Bipartite Agreement Date</b>	

#### Brief Profile of State/Utility

<b>Name of State</b>	Haryana
<b>Name of Utility (Short Name)</b>	DHBVN
<b>Total Number of Utility Consumers</b>	2942237 ( Till may 2015)
<b>AT&amp;C loss as provided by PFC in latest "Report on Performance of State Power Utilities"</b>	
<b>AT&amp;C Losses</b>	% 24.09

#### Project Area Profile

<b>Name of the Project Area Circle/ Zone/ Utility)</b>	Narnaul	
<b>Nos. of towns covered</b>	3	
<b>Nos. of Consumers in all towns covered in the project area</b>	15632	
<b>Data for AT&amp;C Losses Computation for Project Area (All statutory towns of the Circle/ Zone/ Utility)</b>	Unit	Data for Previous FY 14-15
Energy Input	M Units	590.87
Energy Sales	M Units	336.81
Total Revenue Billed	Rs. Lac	2551.20
Total Revenue Collected (excluding arrears)	Rs. Lac	2396.50
Billing Efficiency	%	57.00
Collection Efficiency	%	93.94
AT&C Losses	%	46.45

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

<b>Name of Town</b>	<b>Town In Charge</b>	<b>Contact No.</b>
City Narnaul	Er. Rajesh Nandal	8059888336
Ateli	Er. Pradeep Kumar Soni	8059888337
City Mohindergarh	Er. Narender Singh	8059888301
Kanina	Er. Lalit Mohan	8059888303

#### Project Funding

<b>Recommended Project Cost for Sanction</b>	Rs. Lac	1331.65
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<b>Cost Item</b>		<b>Total Cost</b>	<b>Gol</b>	<b>PFC/ Fls</b>	<b>Own</b>
<b>Total Setup Cost</b>	Rs.Lac	1331.65	798.99	399.50	133.17

		<b>Base Year-0</b>	<b>Year-1</b>	<b>Year-2</b>
<b>Phasing of Capital Expenditure</b>	Rs.Lac	79.90	585.93	665.83

# **POWER FINANCE CORPORATION LTD.**

## **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.

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

Volume I: Project Area Details

Circle Narnaul

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.	0	2
Total Length of 33 KV Feeders (Overhead)	kM	0	6
Total Length of 66/33 kV Feeders (Under-ground)	kM	0	0
Total Number of 66/11 kV and 33/11 kV Sub-stations feeding the Project Area	Nos.	3	2
Total Number of Power Transformers	Nos.	7	2
Total Capacity of Power Transformers	MVA	112	20
33/11 kV or 66/11 kV S/Stn. R&M	Nos.	0	0
Total Number 11 kV Feeders	Nos.	7	9
Number of Metered 11 kV Feeders	Nos.	7	9
Total Length of 11 kV Feeders (Overhead)	kM	78	88.8
Total Length of 11 kV Feeders (Under-ground)	kM	0	0.3
Total Length of LT Lines (Overhead)	kM	97.2	53
Total Length of LT Lines (Under-ground)	kM	0	0
Augmentation with Cable (ACSR to Armoured Cable)	kM	0	0
Aerial Bunched Cable	kM	13	96
HT/LT Ratio		0.9	
Total Number of Distribution Transformers	Nos.	341	71
Total Capacity of Distribution Transformers	MVA	38.62	10.30
Distribution Transformers R&M	Nos.	0	281
Total Annual Energy Input of previous FY	MUs	590.87	649.87
Current Peak Demand	MVA	62.66	68.92
Current Average Demand	MVA	48.14	52.95
Capacitor Bank	MVAR	0	0
Solar Project	Nos./KVA	0	3
Please specify name of town of Project area covered under Part-A (IT) of R-APDRP, if any.		City Narnaul	
Please specify name of town of Project area covered under Part-A (SCADA/DMS) of R-APDRP, if any.			

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

Volume IIa: SUMMARY Project Cost

**Narnaul 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	2	800.00
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	6.00	59.7
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	23.8	159.46
I	11 kV Line : Augmentation/Reconductoring	Kms	0	0
J	Arial Bunched Cable	Kms	0	0
K	UG Cable	Kms	0	0
L	11 KV Bay Extension	Kms	0	0.00
M	Installation of Distribution Transformer	Nos	71	214.40
N	Capacity enhancement of LT sub-station	Nos.	0	0.00
O	LT Line : New Feeder/ Feeder Bifurcation	Kms	0	0
P	LT Line : Augmentation/Reconductoring	Kms	0	0
Q	Capacitor Bank	Nos.	0	0.00
R	HVDS	Nos.	0	0.00
S	Metering	Nos.	2770	93.09
T	Provisioning of solar panel	Kve	5	5.0
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0.00
V	Others	Lot	0	0.000
	<b>GRAND TOTAL</b>			<b>1,331.65</b>

**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 NANAU 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.
<b>A 33/11 KV S/S : New</b>							
1	33 KV S/Stn HUDA Sector Mohindergarh	MVA		10	40.00	400	NNL Circle New
2	33 KV S/Stn DIET Mohindergarh	MVA		10	40.00	400	
3		Nos.		0		0	
	<b>Sub Total</b>			<b>0</b>		<b>800</b>	
<b>B 33/11 KV S/S : Additional Transformer</b>							
1		Nos.		0	0	0	
2		Nos.		0	0	0	
3		Nos.		0	0	0	
	<b>Sub Total</b>			<b>0</b>		<b>0</b>	
<b>C 33/11 KV S/S : Transformer capacity enhancement</b>							
1		Nos.		0		0	
2		Nos.		0		0	
3		Nos.		0		0	
	<b>Sub Total</b>			<b>0</b>		<b>0</b>	
<b>D Renovation &amp; Modernisation of 33/11 KV SS</b>							
1		Nos.		0		0	
2		Nos.		0		0	
3		Nos.		0		0	
	<b>Sub Total</b>			<b>0</b>		<b>0</b>	
<b>E New 33 KV new feeders/Bifurcation of feeders:</b>							
1	33 KV S/Stn HUDA Sector Mohindergarh, Size of ACSR 100mm2	Kms		1.50	9.95	14.93	NNL Circle New
2	33 KV S/Stn DIET Mohindergarh, Size of ACSR 100mm2	Kms		4.50	9.95	44.78	
3		Kms		0.00			
	<b>Sub Total</b>			<b>0</b>		<b>59.70</b>	
<b>F 33 KV feeders Reconductoring/Augmentation</b>							
1		Kms		0		0	
2		Kms		0		0	
3		Kms		0		0	
	<b>Sub Total</b>			<b>0</b>		<b>0</b>	
<b>G 33 kV Line Bay Extension at EHV station</b>							
1		Nos.		0		0	
2		Nos.		0		0	
3		Nos.		0		0	
	<b>Sub Total</b>			<b>0</b>		<b>0</b>	
<b>H 11 kV Line : New Feeder/ Feeder Bifurcation</b>							
1	City Ateli = 10.5 KM, Size of ACSR 50/30mm2 City-I=16 KM (Size of ACSR 80/50mm2) City-II=20 KM (Size of ACSR 80/50mm2) City-III=7.5 km =5.0(Size of ACSR 80/50mm2) + 2.5 KM HT AB Cable Size 185mm2 11 KV City-I = 16km ACSR Size 100mm2 11 KV City-II = 8km	Kms	78.00	0.00	6.70	-	
	11 KV HUDA M/Garh	Kms		2.000	6.70	13.40	NNL Circle New
	11 KVMini Sect M/Garh	Kms		2.500	6.70	16.75	
	11 KV City-IV M/Garh	Kms		2.500	6.70	16.75	
	11 KV Chamdhera AP	Kms		5.000	6.70	33.50	
	11 KV City-V M/Garh	Kms		1.500	6.70	10.05	
	11 KV Water Supply	Kms		3.000	6.70	20.10	
	11 KV Dulana Road AP	Kms		2.000	6.70	13.40	
	11 KV City-III Kanina	Kms		1.300	6.70	8.71	
	11 KV City-II Ateli feeder	Kms		4	6.70	26.80	
	<b>Sub Total</b>		<b>78</b>	<b>23.80</b>	<b>6.70</b>	<b>159.46</b>	
<b>I 11 kV Line : Augmentation/Reconductoring</b>							
1	11 KV City Ateli = Length of LT line = 19.5 & Size of ACSR = 50/80 mm2 11 KV City-I MGR = 19km ACSR Size 50/30mm2 11 KV City-II MGR = 5km ACSR Size 50/30mm2	Kms	43.5		4.66	-	
2	11 KV City-I M/Garh	Kms	0.0	0.0	4.66	-	
	11 KV City-II M/Garh	Kms		0.0	4.66	-	
	11 KV City-III M/Garh	Kms		0.0	4.66	-	
	11 KV City-I Kanina	Kms		0.0	4.66	-	
	11 KV City-II Kanina	Kms		0.0	4.66	-	
	<b>Sub Total</b>		<b>44</b>	<b>0.0</b>		<b>0.00</b>	
<b>J Aerial Bunched Cable</b>							
<b>i) HT</b>							
	11 KV City-III M/Garh = 2.50 KM	Kms	13.00	0			
	11 KV City Ateli = 10.50	Kms		0			
		Kms		0			
	<b>Sub Total</b>		<b>13</b>	<b>0</b>		<b>0</b>	
<b>ii) LT</b>							
	11 KV City-I M/Garh 11 KV City-II M/Garh	Kms		0	4.93	-	
	11 KV City-I Kanina & 11 KV City-II Kanina	Kms		0	4.93	-	
		Kms		0			
	<b>Sub Total</b>		<b>0</b>	<b>0</b>		<b>0</b>	
	<b>Total</b>		<b>13</b>	<b>0</b>		<b>0</b>	
<b>K UG Cable</b>							
<b>i) HT</b>							
	Kanina = 3/c 300 mm2 (From Power House to 1st- H pole)	Kms		0.00	31.64	-	NNL Circle New
		Kms		0			
		Kms					
	<b>Sub Total</b>		<b>0</b>	<b>0.000</b>		<b>0.00</b>	
<b>ii) LT</b>							
		Kms		0			
		Kms		0			
		Kms		0			
	<b>Sub Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
	<b>Total</b>		<b>0</b>	<b>0.000</b>		<b>0.00</b>	
<b>L 11 KV Bay Extension</b>							
		Kms		0		-	
		Kms		0		-	
		Kms		0		-	
	<b>Sub Total</b>		<b>0</b>	<b>0</b>		<b>0</b>	
<b>M Installation of Distribution Transformer</b>							
<b>New Distribution Transformer</b>							
	Existing 16 KVA	Nos.	7	0		-	
	Existing 25 KVA	Nos.	56	0		-	
	Existing 63 KVA	Nos.	55	0		-	
	Existing 100 KVA	Nos.	129	0		-	
	Existing 200 KVA	Nos.	85	0		-	
	Existing 250 KVA	Nos.	3	0		-	
	Existing 315 KVA	Nos.	3	0		-	
	Existing 500 KVA	Nos.	2	0		-	
	Existing 615 KVA	Nos.	1	0		-	
	Installation of Distribution Transformer 100 KVA	Nos.	0	39	2.24	87.36	NNL Circle New
	Installation of Distribution Transformer 200 KVA	Nos.	0	32	3.97	127.04	
	<b>Sub Total</b>		<b>341</b>	<b>71</b>		<b>214.40</b>	
<b>N Capacity enhancement of LT sub-station</b>							
		Nos.	0	0		-	
		Nos.	0	0		-	
		Nos.	0	0		-	
	<b>Sub Total</b>		<b>0</b>	<b>0</b>		<b>0</b>	
<b>O LT Line : New Feeder/ Feeder Bifurcation</b>							

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price	Cost proposed under IPDS	Reference Annx No.
					Rs. Lac	Rs. Lac	
1	City Ateli Existing LT line of DOG ACSR/Rabbit/Raccon= 19.2 City-I MGR= 24 KM (Size of ACSR 50mm2) City-II MGR = 18 KM (14 KM 4 Core cable +4 KM ACSR Size of ACSR 50mm2) City-III MGR = 12 KM (10 KM 4 Core cable +2 KM ACSR Size of ACSR 50mm2) 11 KV City-I Kanina = 16km 11 KV City-II Kanina = 8km	Kms	97.2	0		-	
2		Kms	0.0	0	5.21	-	
3		Kms	0.0	0		-	
	<b>Sub Total</b>		<b>97.2</b>	<b>0</b>		<b>0.00</b>	
<b>P</b>	<b>LT Line : Augmentation/Reconductoring</b>						
	ACSR 30mm2 with 80mm2	Kms	97	0		-	
		Kms	0	0	4.29	-	
		Kms		0		-	
	<b>Sub Total</b>		<b>97</b>	<b>0</b>		<b>0.00</b>	
<b>Q</b>	<b>Capacitor Bank</b>						
		Nos.		0			
		Nos.		0			
		Nos.		0			
	<b>Sub Total</b>		<b>0</b>	<b>0</b>		<b>0</b>	
<b>R</b>	<b>HVDS</b>						
		Nos.		0			
		Nos.		0			
		Nos.		0		-	
	<b>Sub Total</b>		<b>0</b>	<b>0</b>		<b>0</b>	
<b>S</b>	<b>Metering</b>						
i)	Prepaid / smart meters in Govt. establishment	Nos.	0	111	0.12000	13.32	NNL Circle New
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.	0	0	0.03000	-	
v)	Consumers for existing un-metered connections, replacement of faulty meters & electro-mechanical meters	Nos.	2659	2659	0.03000	79.77	
vi)	Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.	0	0	0.01000	-	
	<b>Sub Total</b>		<b>2659</b>	<b>2770</b>		<b>93.09</b>	
<b>T</b>	<b>Provisioning of solar panel</b>						
	Division office	Nos.		1	1.00	1.00	NNL Circle New
	33 kv HUDA M/Garh (Prop)	Nos.		1	1.00	1.00	
	33 kv DIET M/Garh (Prop)	Nos.		1	1.00	1.00	
	Kanina office	Nos.		1	1.00	1.00	
	Ateli office	Nos.		1	1.00	1.00	
	<b>Sub Total</b>		<b>0</b>	<b>5</b>		<b>5</b>	
<b>U</b>	<b>RMU,Sectionaliser, Auto reclosures, FPI etc.</b>						
i)	33 kv Line : Installation of switchable breaker/switches	Nos.		0			
ii)	33 kv Line : Installation of communicable/non-communicable FPIs (O/C&E/F)	Nos.		0			
iii)	11 kv Line : Installation of RMUs/Sectionaliser alongwith aux power supply to operate sw/breaker.	Nos.		0			
iv)	11 kv Line :- Installation of communicable/non communicable FPIs (O/C,E/F)	Nos.		0			
v)	11 kv Line : Installation of switchable breakers alongwith aux power supply to operate sw/breaker	Nos.	0	0	0.0	0.0	
vi)	Installation of remote operable switches for breaker/switches operation for Distribution Transformer alongwith aux power supply to operate sw/breaker	Nos.		0			
vii)	Installation of remote operable switches for breaker/switches operation for cap bank alongwith aux power supply to operate sw/breaker .	Nos.		0			
	<b>Sub Total</b>		<b>0</b>	<b>0</b>		<b>0.0</b>	
<b>V</b>	<b>Others</b>						
1	Additional PCC pole			0	0.04700	0.00	
2	Replacement of damaged poles with 9 mtr			0	0.02500	0.00	
3	Insertion of middle poles with 9 mtr			0	0.02500	0.00	
4	R & M of T/Fs			0	0.15000	0.00	
	<b>Sub Total</b>		<b>0</b>	<b>0</b>		<b>0.00</b>	
	<b>Grand Total</b>					<b>1,331.65</b>	

Not 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
1	Narnaul	Mohindergarh	1	10	33 KV HUDA M/Garh	400
2	Narnaul	Mohindergarh	1	10	33 KV DIET M/Garh	400
3	Narnaul	Kanina	0	0	-	-
4	Narnaul	Ateli	0	0	-	-
<b>Sub Total</b>			<b>2</b>	<b>20</b>		<b>800</b>

**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	Narnaul	Mohindergarh	0	0		0
2	Narnaul	Kanina	0	0		0
3	Narnaul	Ateli	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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	Narnaul	Mohindergarh	0	0		0
2	Narnaul	Kanina	0	0		0
3	Narnaul	Ateli	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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	Narnaul	New Feeder	220 KV Mohindergarh	33 KV HUDA M/Garh	1.5	14.925
2	Narnaul	New Feeder	220 KV Mohindergarh	33 KV DIET M/Garh	4.5	44.775
3	Narnaul	Kanina	-	-	-	-
4	Narnaul	Ateli	-	-	-	-
<b>Sub Total</b>					<b>6</b>	<b>59.7</b>

**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	Mohindergarh	-	-	-	-	0	0
2	Narnaul	Kanina	-	-	-		
3	Narnaul	Ateli	-	-	-		
<b>Sub Total</b>						<b>0</b>	<b>0</b>

**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	Mohindergarh	New Feeder	33 KV HUDA M/Garh	11 KV HUDA M/Garh	2.000	13.400
2	Mohindergarh	New Feeder	33 KV HUDA M/Garh	11 KV Mini Sect M/Garh	2.500	16.750
3	Mohindergarh	New Feeder	33 KV HUDA M/Garh	11 KV City-IV M/Garh	2.500	16.750
4	Mohindergarh	New Feeder	33 KV HUDA M/Garh	11 KV Chamdhera AP	5.000	33.500
5	Mohindergarh	New Feeder	33 KV DIET M/Garh	11 KV City-V M/Garh	1.500	10.050
6	Mohindergarh	New Feeder	33 KV DIET M/Garh	11 KV Water Supply	3.000	20.100
7	Mohindergarh	New Feeder	33 KV DIET M/Garh	11 KV Dulana Road AP	2.000	13.400
8	Kanina	New Feeder	132 KV S/Stn Kanina	11 KV City-III Kanina	1.300	8.710
9	Ateli	New	132 KV S/Stn. Ateli	11 KV City-II Ateli feeder	4	26.800
<b>Sub Total</b>					<b>23.800</b>	<b>159.460</b>

**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	Mohindergarh	Augmentation	220 KV S/Stn Mohindergarh	11 KV City-I M/Garh	30/50mm <sup>2</sup>	20	93.2
2	Mohindergarh	Augmentation	220 KV S/Stn Mohindergarh	11 KV City-II M/Garh	30/50mm <sup>2</sup>	26	121.16



3	Mohindergarh	Augmentation	220 KV S/Stn Mohindergarh	11 KV City-III M/Garh	30/50mm2	9	41.94
4	Kanina	Augmentation	132 KV S/Stn Kanina	11 KV City-I Kanina	30/50mm2	7	32.62
5	Kanina	Augmentation	132 KV S/Stn Kanina	11 KV City-II Kanina	30/50mm2	3	13.98
6	Ateli	0	0	0	0	0	0
<b>Sub Total</b>						<b>65</b>	<b>302.9</b>

#### 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	Mohindergarh	3Cx120 +1x70 Sqmm	220 KV S/Stn Mohindergarh	11 KV City-I M/Garh	30	147.9	
2	Mohindergarh	3Cx120 +1x70 Sqmm	220 KV S/Stn Mohindergarh	11 KV City-II M/Garh	18	88.74	
3	Kanina	(3Cx120 +1x70 Sqmm)	132 KV S/Stn Kanina	11 KV City-I Kanina	25	123.25	
4	Kanina	(3Cx120 +1x70 Sqmm)	132 KV S/Stn Kanina	11 KV City-II Kanina	15	73.95	
5	Ateli	(3Cx120 +1x70 Sqmm)	132 KV S/Stn Ateli	11 KV Ateli	8	39.44	
<b>Sub Total</b>						<b>96</b>	<b>473.28</b>

#### J.UG Cable

Unit Rate @ Rs 31.64 Lacs/KM

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	Mohindergarh	3x300Sqmm	-	-	0	0	
2	Kanina	3x300Sqmm	132 KV S/Stn Kanina	11 KV City-III Kanina	0.3	9.492	
3	Ateli	-	-	-	-	-	
<b>Sub Total</b>						<b>0.3</b>	<b>9.492</b>

#### K. Installation of Distribution Transformer

Sr No.	Circle	Feeding Source ( 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	Narnaul	220 KV S/Stn M/Garh	11 KV City-I M/Garh	4	8.96	6	23.82
2	Narnaul	220 KV S/Stn M/Garh	11 KV City-II M/Garh	8	17.92	7	27.79
3	Narnaul	220 KV S/Stn M/Garh	11 KV City-III M/Garh	13	29.12	7	27.79
4	Narnaul	132 KV S/Stn. Kanina	City-1 Kanina	5	11.2	3	11.91
5	Narnaul	132 KV S/Stn. Kanina	City-II Kanina	5	11.2	2	7.94
6	Narnaul	132 KV Ateli	City Ateli	4	8.96	7	27.79
<b>Sub Total</b>				<b>39</b>	<b>87.36</b>	<b>32</b>	<b>127.04</b>
<b>Total Cost</b>				<b>214.4</b>			

#### 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	Mohindergarh	S.D.O PUBLIC HEALTH , NEAR DHOLPOSH GAUSALA M/GARH	1	0.12
2	Mohindergarh	SDO PWD REST HOUSE , NEAR KILA MOHINDERGARH	1	0.12
3	Mohindergarh	SAINIK REST HOUSE , ARMY CANTEEN ITI ROAD M/GARH	1	0.12
4	Mohindergarh	SUB DIVN ENGINEER , IN FRONT ITI M/GARH	1	0.12
5	Mohindergarh	OFFICE OF JE ELECTRIC , B & R IN FRONT OF ITI M/GARH	1	0.12
6	Mohindergarh	MANAGER G K S , ARMY CANTEEN	1	0.12
7	Mohindergarh	E O CUM SECRETARY MARKET COMMITTEE , SABJI MANDI ROAD M/GARH	1	0.12
8	Mohindergarh	ASSTT ENGINEER DOORDARSHAN RELAY CENTRE , NR OLD PWD REST HOUSE M/GARH	1	0.12
9	Mohindergarh	G.M HARYANA ROADWAYS , M/GARH	1	0.12
10	Mohindergarh	MANAGER STATE BANK OF PATIALA, NARNAUL ROAD M/GARH	1	0.12
	Mohindergarh	XEN OP DIVN DHBVN , NARNAUL ROAD M/GARH	1	0.12
	Mohindergarh	SSE 220KV S/STN SEWERAGE SYSTEM , 220KV HVPN COLONY M/GARH	1	0.12
	Mohindergarh	SSE 220KV S/STN STREET LIGHT CONNECTIN , 220KV HVPN COLONY M/GARH	1	0.12
	Mohindergarh	SHO POLICE STATION MOHINDERGARH	1	0.12
	Mohindergarh	CO OP BANK , ANAJ MANDI ROAD MOHINDERGARH	1	0.12
	Mohindergarh	OFFICER MARKET COMMITTEE , BEHIND ANAJ MANDI MOHINDERGARH	1	0.12
	Mohindergarh	MANAGER STATE BANK OF PATIALA , OPP SADAR THANA MOHINDERGARH	1	0.12
	Mohindergarh	SDO CANAL , RAILWAY ROAD MOHINDERGARH	1	0.12
	Mohindergarh	SDO CANAL REST HOUSE, RAILWAY ROAD MOHINDERGARH	1	0.12
	Mohindergarh	PRINCIPAL.T.I.I , OPP. BUS STAND MOHINDERGARH	1	0.12

Mohindergarh	MANAGER STATE WARE HOUSE, ANAJ MANDI MOHINDERGARH	1	0.12
Mohindergarh	INCHARGE CIA OFFICE , ANAJ MANDI MOHINDERGARH	1	0.12
Mohindergarh	D.S.P. , ANAJ MANDI MOHINDERGARH	1	0.12
Mohindergarh	S.D.O TELEPHON EXCHAND , RAILWAY ROAD MOHINDERGARH	1	0.12
Mohindergarh	MANGER CENTRAL BANK OF I, RAILWAY ROAD M/GARH	1	0.12
Mohindergarh	S.D.O OP S/U/S/DIVN , ANAJ MANDI MOHINDERGARH	1	0.12
Mohindergarh	SECRETARY MUNICIPAL ,COMMETTEE NEAR OVER BRIDGE	1	0.12
Mohindergarh	SECRETARY MUNICIPAL ,COMMETTEE GAUSHALA ROAD M/GARH	1	0.12
Mohindergarh	SDO WATER SERVICES S/DIVN. NO.1 , CANAL COLONY MOHINDERGARH	1	0.12
Mohindergarh	VIKAS KHAND ADHIKARI , MOHINDERGARH	1	0.12
Mohindergarh	HEAD MASTER GIRL HIGH SCHOOL , M GARH	1	0.12
Mohindergarh	SH INCHARJ P C ,	1	0.12
Mohindergarh	RANGE FOREST OFFCE , M.GARH	1	0.12
Mohindergarh	SOIL TESTING OFFICER , NEAR K.G. K. M GARH	1	0.12
Mohindergarh	SH PRINCIPAL , DULLA ROAD	1	0.12
Mohindergarh	PRINCIPAL GOVT.GIRLS S.SEC. SCHOOL M/GARH	1	0.12
Mohindergarh	XEN PUBLIC HEALTH , S/DIVIN NO.2 MAIN BOOSTER M.GARH	1	0.12
Mohindergarh	SDE PUBLIC HEALTH , S/DIVIN NO2 MAIN BOOSTER M.GARH	1	0.12
Mohindergarh	PRINCIPAL D.I.E.T , DULANA ROAD M/GARH	1	0.12
Mohindergarh	S.D.O OP CITY S/DIVN , BUCHOLI ROAD MOHINDERGARH	1	0.12
Mohindergarh	RANGER FOREST OFFICER , REST HOUSE M.GARH	1	0.12
Mohindergarh	PRESIDENT MUNICIPAL , MOH.KHATIKAN MAHENDERGARH	1	0.12
Mohindergarh	PRINCIPAL GOVT. MODEL SANSKRITI SCHOOL , COLLAGE ROAD M/GARH	1	0.12
Mohindergarh	S.D.O TELIPHONE EXCHANGE, SAINI PURA M/GARH	1	0.12
Mohindergarh	SEVRETARY DISTRICT SPORT, MINI STADIUM GOVT BOY COLLEGE	1	0.12
Mohindergarh	BLOCK EDUCATION OFFICER , MINI SECTRIAT ROOM 215 M/GARH	1	0.12
Mohindergarh	SDO CAHDAIRYING , MINI SECTRIAT MOHINDERGARH	1	0.12
Mohindergarh	ASSTT EMPLOYMENT OFFICER, MINI SECTRIAT MOHINDERGARH	1	0.12
Mohindergarh	FISHERIES OFFICER ,MENI SECTRIAT ROOM 205 M/GARH	1	0.12
Mohindergarh	A.P.R.O OFFICER , MOHINDERGARH	1	0.12
Mohindergarh	DY SUURINTEDEDENT OF POLICE, MINI SECTRATE ROON NO 210 M/GARH	1	0.12
Mohindergarh	CHILD DEVELOPMENT PROJECT, MINI SECTRATE ROOM NO 227 M/GARH	1	0.12
Mohindergarh	ASSITT TREASURY OFFICER , MINI SECTRATE NNL ROAD M/GARH	1	0.12
Mohindergarh	ASSTT SOIL CONESRAVATION , MINI SECTRATE NNL ROAD M/GARH	1	0.12
Mohindergarh	SECRETARY MUNICIPAL ,COMMETTEE NEAR COLLAGE GATE	1	0.12
Mohindergarh	PRESIDENT BAR ASSOCIATION, MINI SECTRATE MOHINDERGARH	1	0.12
Mohindergarh	CIVIL HOSPITAL, MOHINDER GARH	1	0.12
Mohindergarh	PRINCIPAL , GOVT. COLLEGE BOYS M/GARH	1	0.12
Mohindergarh	S.D.O TELIPHONE EXCHANGE , COURT ROAD M-GARH	1	0.12
Mohindergarh	BRACH MANAGER BANK OF INDIA , TULARAM CHOWK M/GARH	1	0.12
Mohindergarh	MINI SECTRATE, NARNAUL ROAD M/GARH	1	0.12
Mohindergarh	SEGY. MARKET COMMITTEE, MANDI M-GARH	1	0.12
Mohindergarh	MANAGER CENTRAL CO-OP BANK, RAILWAY ROAD M-GARH	1	0.12
Mohindergarh	S.D.O. CANAL, RAILWAY ROAD M-GARH	1	0.12
Mohindergarh	D.F.O. FACTORY. MOHINDERGARH	1	0.12
Mohindergarh	SSE 220KV S/STN W/SUPPLY, 220KV HVPN COLONY M/GARH	1	0.12
Mohindergarh	SSE 220KV S/STN W/SUPPLY, 220KV HVPN COLONY M/GARH	1	0.12
Mohindergarh	PRINCEPLE GOVT. COLLEGE, M/GARH	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, OLD ARYA SMAJ MANDIR	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, MOHLA SAINI PURA	1	0.12
Mohindergarh	SDE PUBLIC HEALTH, MOH-SARAI M/GARH	1	0.12

	Mohindergarh	SDE PUBLIC HEALTH, MOH. BALMIKI M/GARH	1	0.12
	Mohindergarh	SDE PHE S/DIVISION, SITE AT BASS MOHALLA	1	0.12
	Mohindergarh	S.M.O CHC, CIVIL HOSPITAL M/GARH	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, NEAR DHOLPASS M/GARH	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, ITI M/GARH	1	0.12
	Mohindergarh	MUNICIPAL COMMITTEE, CHAMDHARA ROAD M/GARH	1	0.12
	Mohindergarh	MUNICIPAL COMMITTEE, NEAR DEIT M/GARH	1	0.12
	Mohindergarh	MUNICIPAL COMMITTEE, NEAR KRISHI GAYAN KENDER	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, NEAR KUMARAIN M/GARH	1	0.12
	Mohindergarh	SDE PUBLIC HEALTH, MOH. JAWAHR NAGAR	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, NEAR ANAJ MANDI	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, NEAR NURSARY M/GARH	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, BUSTER CIVIL HOSPITAL M/GARH	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, MOH. PUNJABI M/GARH	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, DULANA ROAD M/GARH	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, NR. PEER BABA M/GARH	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, CHC HOSPITAL M/GARH	1	0.12
	Mohindergarh	SDO P/H, CIVIL COMPLEX M/GARH	1	0.12
	Mohindergarh	SDE PUBLIC HEALTH S/DIV NO.4, KARAM CHARI COLONY M/GARH	1	0.12
	Mohindergarh	SDO TELEPHONE EXCHANGE, M/GARH	1	0.12
	Mohindergarh	PRINCIPAL ITI, MOHINDER GARH	1	0.12
	Mohindergarh	SDJM NEW COURT COMPLEX, NARNAUL ROAD M/GARH	1	0.12
	Mohindergarh	SECRETORY MUNICIPAL COMMITTEE, HUDA PARK M/GARH	1	0.12
	Mohindergarh	SDE P/HEALTH SEWERAGE TREATMENT, DULANA ROAD M/GARH	1	0.12
	Mohindergarh	S.D.E PUBLIC HEALTH S/DIVIN. NO4, NEAR PUNCH MUKHI MANDIR M/GARH	1	0.12
	Mohindergarh	S.D.E PUBLIC HEALTH S/DIVIN. NO4, CAMPUS BOOSTING STATION M/GARH	1	0.12
	Mohindergarh	PRINCIPAL GOVT. COLLEGE FOR WOMEN, NARNAUL ROAD OPP. COURT COMPLEX	1	0.12
99	Kanina	-	-	-
100	Ateli	MANDAL ADHIKCHAK RAILWAY	1	0.12
101	Ateli	GOVT. PRIMARY SCHOOL	1	0.12
3	Ateli	PRESIDENT MUNICIPAL COMMI	1	0.12
4	Ateli	SDO P/H	1	0.12
5	Ateli	SDO P/H	1	0.12
6	Ateli	S.D.E P/H	1	0.12
7	Ateli	SDE. P.HEALTH	1	0.12
8	Ateli	SDO PH AT SITE	1	0.12
9	Ateli	PRABANDHAK THANA	1	0.12
10	Ateli	MANDAL ADHIKCHAK	1	0.12
11	Ateli	SWASTHYA ADHIKARI	1	0.12
12	Ateli	SECRETARY MUNICIPAL COMM	1	0.12
13	Ateli	SUB TEHSIL	1	0.12
	Sub Total		111	13.32

### 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 Mohindergarh

Sr No	IPDS Town	Name of Office	unit	Unit Cost @ Rs 1 Lac per KVE
1	Mohindergarh	Division office	1 kVe	1
2	Mohindergarh	33 KV HUDA M/Garh (Prop)	1 kVe	1
3	Mohindergarh	33 KV DIET M/Garh (Prop)	1 kVe	1
4	Kanina	Kanina office	1 kVe	1
5	Ateli	Ateli office	1 kVe	1
	Sub Total			5

### 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
1	Mohindergarh	-	-	-	-
2	Kanina	-	-	-	-

3	Ateli	-	-	-	-
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**Detail Project Report**  
Project area asset detail

Narnaul CI

**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	132/33/11KV Ateli SS	132/33/11	16	2	32	28.62
2	220 KV S/Stn Mohindergarh	200/132/33 KV	220/132 KV	3x16	48	11.04
3	132 KV S/Stn Kanina	132/11 KV	10/16 MVA	2	32	23

**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	0	0	0	0	0	0	0
			0	0	0	0	0

**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)

**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)

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

Sl. No.	From 33/11 of 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.
<b>Total</b>							<b>0</b>

**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.
<b>Total</b>							
2	132 Ateli S/Stn.	T-2 10/16	11 KV Ateli City	50SQMM	2.75	16	2
						25	24
						63	12
						100	27
						200	10
<b>Total</b>						315	2
<b>Total</b>							<b>77</b>
1			11 KV City-I	80/50 mmsq.	4.39	25	7
						63	14
						100	33
						200	19
2			11 KV Hospital	50mmsq.	0.04	500	2
3	132/11 KV ( Mohindergarh)	3x16 MVA	11 KV City-II	80/50 mmsq.	3.44	200	1
						25	9
						63	4
4			11 KV City-III	11 KV AB Cable 3cX185mm and 50/30mmsq ACSR	1.72	100	24
						200	17
						25	2
						63	7
<b>Total</b>						250	3
<b>Total</b>							<b>169</b>
1	132 KV S/Stn Kanina	2x10x16 MVA	11 KV City-1	3\6 swg	1.02	16	0
						25	4
						63	10
						100	20
						200	24
2	132 KV S/Stn Kanina	2x10x16 MVA	11 KV City-2	3\6swg	1.02	16	5
						25	11
						63	5
						100	8
						200	6
						315	1
<b>Total</b>						615	1
<b>Total</b>							<b>95</b>

rele

Capacity (KVA)
0

Capacity (KVA)
32
600
756
2700
2000
630
<b>6718</b>
175
882
3300
3800
1000
200
225
252
2400
3400
50
441
1500
2400
750
20775
0
100
630
2000
4800
80
275
315
800
1200
315
615
<b>11130</b>

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

Volume IIa: SUMMARY Project Cost

**Ateli****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	Nos.	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	4	27
I	11 kV Line : Augmentation/Reconductoring	Kms	0	0
J	Arial Bunched Cable	Kms	0	0
K	UG Cable	Kms	0	0
L	11 KV Bay Extension	Kms	0	0
M	Installation of Distribution Transformer	Nos	11	37
N	Capacity enhancement of LT sub-station	Nos.	0	0
O	LT Line : New Feeder/ Feeder Bifurcation	Kms	0	0
P	LT Line : Augmentation/Reconductoring	Kms	0	0
Q	Capacitor Bank	Nos.	0	0
R	HVDS	Nos.	0	0
S	Metering	Nos.	13	2
T	Provisioning of solar panel	Lot	1	1
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0
V	Others	Lot	0	0
	<b>GRAND TOTAL</b>			<b>66.11</b>

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

**Bill of Quantities**

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price		Reference
					Rs. Lac	Cost proposed under IPDS Rs. Lac	
<b>A</b>	<b>33/11 KV S/S : New</b>						
1		Nos	-				
2		Nos					
3		Nos.					
	<b>Sub Total</b>			<b>0</b>			
<b>B</b>	<b>33/11 KV S/S : Additional Transformer</b>						
1		Nos.	-				
2		Nos.					
3		Nos.					
	<b>Sub Total</b>						
<b>C</b>	<b>33/11 KV S/S : Transformer capacity enhancement</b>						
1		Nos.				-	
2		Nos.				-	
3		Nos.				-	
	<b>Sub Total</b>					-	
<b>D</b>	<b>Renovation &amp; Modernisation of 33/11 kV SS</b>						
1		Nos.			-	-	
2		Nos.				-	
3		Nos.				-	
	<b>Sub Total</b>				-	-	
<b>E</b>	<b>New 33 KV new feeders/Bifurcation of feeders:</b>						
1		Kms		<b>0.0</b>	-	-	
2		Kms					
3		Kms					
	<b>Sub Total</b>			<b>0.00</b>		<b>0.00</b>	
<b>F</b>	<b>33 KV feeders Reconductoring/Augmentation</b>						
1		Kms	-				
2		Kms					
3		Kms					
	<b>Sub Total</b>		<b>0</b>				
<b>G</b>	<b>33 kV Line Bay Extension at EHV station</b>						
1		Nos					
2		Nos					
3		Nos					
	<b>Sub Total</b>		<b>0</b>				
<b>H</b>	<b>11 kV Line : New Feeder/ Feeder Bifurcation</b>						
1	Existing 11 KV line City Ateli = 10.5 KM, Size of ACSR 50/30mm <sup>2</sup>	Kms	10.50			-	
2	New 11 KV Ateli City feeder with Dog ACSR Length 4 KM	Kms		4	6.70	26.80	Ateli
3		Kms				-	
	<b>Sub Total</b>		<b>10.5</b>	<b>4</b>		<b>26.80</b>	
<b>I</b>	<b>11 kV Line : Augmentation/Reconductoring</b>						
1	11 KV City Ateli = Length of LT line = 19.5 & Size of ACSR = 50/80 mm <sup>2</sup>	Kms	19.5				
2		Kms					
3		Kms					
	<b>Sub Total</b>						
<b>J</b>	<b>Arial Bunched Cable</b>						
i) HT							
	HT COVERED CONDUCTOR	Kms	10.50				
		Kms					
		Kms					
	<b>Sub Total</b>		<b>10.50</b>				
ii) LT							
	11 KV City-I Ateli= 2 KM	Kms					
	11 KV City-II Ateli= 6 KM	Kms					
		Kms					
	<b>Sub Total</b>						
<b>K</b>	<b>UG Cable</b>						
i) HT							
		Kms	0.0				
		Kms					
		Kms					
	<b>Sub Total</b>		<b>0</b>				
ii) LT							
		Kms					
		Kms					
		Kms					
	<b>Sub Total</b>		<b>0</b>				
	<b>Total</b>			<b>0</b>			
<b>L</b>	<b>11 KV Bay Extension</b>						
		Kms					
		Kms					
		Kms					
	<b>Sub Total</b>		<b>0</b>				
<b>M</b>	<b>Installation of Distribution Transformer</b>						
	<b>New Distribution Transformer</b>						
	Existing 16 KVA	Nos	2			-	
	Existing 25 KVA	Nos	24			-	
	Existing 63 KVA	Nos	12			-	
	Existing 100 KVA	Nos	27			-	
	Existing 200 KVA	Nos	10			-	
	Existing 250 KVA	Nos	0			-	
	Existing 315 KVA	Nos	2			-	
	Existing 500 KVA	Nos	0			-	
	Existing 615 KVA	Nos	0			-	
	Installation of Distribution Transformer 100 KVA	Nos		4	2.24	8.96	Ateli
	Installation of Distribution Transformer 200 KVA	Nos		7	3.97	27.79	
		Nos				-	
	<b>Sub Total</b>		<b>77</b>	<b>11</b>		<b>36.75</b>	



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.
<b>N</b>	<b>Capacity enhancement of LT sub-station</b>						
		Nos.	-				
		Nos.					
		Nos.					
	<b>Sub Total</b>						
<b>O</b>	<b>LT Line : New Feeder/ Feeder Bifurcation</b>						
	Existing LT line of DOG ACSR/Rabbit/Raccon	Kms	19.2				
		Kms					
		Kms					
	<b>Sub Total</b>		19.2				
<b>P</b>	<b>LT Line : Augmentation/Reconductoring</b>						
		Kms	19.2				
	ACSR 30mm2 with 100mm2	Kms					
		Kms					
	<b>Sub Total</b>		19.2				
<b>Q</b>	<b>Capacitor Bank</b>						
		Nos.	0				
		Nos.					
		Nos.					
	<b>Sub Total</b>		0				
<b>R</b>	<b>HVDS</b>						
		Nos.					
		Nos.					
		Nos.					
	<b>Sub Total</b>		0				
<b>S</b>	<b>Metering</b>						
	i) Prepaid / smart meters in Govt. establishment	Nos.		13	0.12000	1.56	Ateli
	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.					
	<b>Sub Total</b>			13.00	0.12	1.56	
<b>T</b>	<b>Provisioning of solar panel</b>						
	Location 1 Ateli Office ( (KVe))	KWe		1	1.00	1.00	Ateli
	Location 2 ..... /( Capacity)	KWe					
	Location 3 ..... /( Capacity)	KWe					
	Net-Meters	Nos.					
	<b>Sub Total</b>		0	1		1.00	
<b>U</b>	<b>RMU,Sectionalisher, Auto reclosures, FPI etc.</b>						
	i) 33 kV Line : Installation of switchable breaker/switches	Nos.					
	ii) 33 kV Line : Installation of communcable/non-communicable FPIs (O/C&E/F)	Nos.					
	iii) 11 kV Line : Installation of RMUs/Sectionalisher 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.					
	<b>Sub Total</b>		0	0		0	
<b>V</b>	<b>Others</b>						
	1 Additional PCC pole						
	2 Replacement of damaged poles with 9 mtr						
	3 Insertion of middle poles with 9 mtr						
	4 R&M of T/Fs						
	<b>Sub Total</b>		0				
	<b>Grand Total</b>					66.11	

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 )

**Ateli Town****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	Nanaul	Ateli	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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	Nanaul	Ateli	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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)	Name of Substation	Unit Cost @Rs 14 lacs/MVA
1	Nanaul	Ateli	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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)	Length of Feeder (Km)	Unit Rate @ Rs 9.95 lac/Km
1	Narnaul	0			0	
<b>Sub Total</b>						<b>0</b>

**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	Ateli	0			0		0
<b>Sub Total</b>							<b>0</b>

**G. 11 kV Line : New Feeder/ Feeder Bifurcation**

Sr No.	IPDS Town	New Feeder/ Bifurcatoin	EHV Substation (Feeding Source )	Name of the feeder ( Conductor Size 100 Sqmm)	Length of Feeder (Km)	Unit Rate @ 6.70 Lac/ Km
1	Ateli	New	132 KV S/Stn. Ateli	11 KV City-II Ateli feeder	4	26.800
<b>Sub Total</b>						<b>4</b>
						<b>26.8</b>

**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
1	Ateli	0			0		0
<b>Sub Total</b>							<b>0</b>

**I. Arial Bunched Cable ( LT)**

Sr No.	IPDS Town	Size of Cable (3Cx120 +1x70	EHV Substation (Feeding Source )	Name of the feeder	Length of Feeder (Km)	Unit Rate @ Rs 4.93 lac /Km
1	Ateli	(3Cx120 +1x70 Sqmm)	132 KV S/Stn Ateli	11 KV Ateli	8	253.12
<b>Sub Total</b>					<b>8</b>	<b>253.12</b>

**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	Ateli	0			0	
<b>Sub Total</b>						<b>0</b>

**K. Installation of Distribution Transformer**

	Feeding Source / EHV		Unit Rate for 100	Unit Rate

Sr No.	Circle	Feeding Source (11 kV Substation)	Name of 11 kV Feeder	Proposed 100 KVA DTs ( Nos)	KVA DT @ 2.24 lac/DT	Proposed 200 kVA DTs ( Nos)	for 200 KVA DT @3.97
1	Narnaul	132 KV Ateli	City Ateli	4	8.96	7	27.79
<b>Sub Total</b>				<b>4</b>	<b>8.96</b>	<b>7</b>	<b>27.79</b>

**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	Ateli	MANDAL ADHIKCHAK RAILWAY	1	0.12
2	Ateli	GOVT. PRIMARY SCHOOL	1	0.12
3	Ateli	PRESIDENT MUNICIPAL COMMI	1	0.12
4	Ateli	SDO P/H	1	0.12
5	Ateli	SDO P/H	1	0.12
6	Ateli	S.D.E P/H	1	0.12
7	Ateli	SDE. P.HEALTH	1	0.12
8	Ateli	SDO PH AT SITE	1	0.12
9	Ateli	PRABANDHAK THANA	1	0.12
10	Ateli	MANDAL ADHICHAK	1	0.12
11	Ateli	SWASTHYA ADHIKARI	1	0.12
12	Ateli	SECRETARY MUNICIPAL COMM	1	0.12
13	Ateli	SUB TEHSIL	1	0.12

**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

Sr No	IPDS Town	Name of Office	unit	Unit Cost @ Rs 1 Lac per KVE
1	Ateli	Ateli office	1 kVe	1
<b>Sub Total</b>				<b>1</b>

**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	
1	Ateli		0	0	0	0

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

Volume IIa: SUMMARY Project Cost

## 4.1 Summary of Project Cost (Bill of Quantities)

City M/Garh

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.	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	6	59.70
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	18.50	123.95
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.	45	135.40
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.	1861	64.65
T	Provisioning of solar panel	Lot	3	3.00
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0.00
V	Others	Lot	0	0.00
	<b>GRAND TOTAL</b>			<b>1,186.70</b>

**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 City M/Garh)**

**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.
<b>A</b>	<b>33/11 KV S/S : New</b>						
1	33 KV S/Stn HUDA Sector Mohindergarh	MVA		10	40.00	400.00	City New
2	33 KV S/Stn DIET Mohindergarh	MVA		10	40.00	400.00	
3		Nos.				-	
	<b>Sub Total</b>		0	2		800.00	
<b>B</b>	<b>33/11 KV S/S : Additional Transformer</b>						
1		Nos.					
2		Nos.					
3		Nos.					
	<b>Sub Total</b>		0				
<b>C</b>	<b>33/11 KV S/S : Transformer capacity enhancement</b>						
1		Nos.					
2		Nos.					
3		Nos.					
	<b>Sub Total</b>		0				
<b>D</b>	<b>Renovation &amp; Modernisation of 33/11 kV SS</b>						
1		Nos.					
2		Nos.					
3		Nos.					
	<b>Sub Total</b>		0				
<b>E</b>	<b>New 33 KV new feeders/Bifurcation of feeders:</b>						
1	33 KV S/Stn HUDA Sector Mohindergarh, Size of ACSR 100mm2	Kms		1.5	9.95	14.93	City New
2	33 KV S/Stn DIET Mohindergarh, Size of ACSR 100mm2	Kms		4.5	9.95	44.78	
3		Kms				-	
	<b>Sub Total</b>		0	6.00		59.70	
<b>F</b>	<b>33 KV feeders Reconductoring/Augmentation</b>						
1		Kms					
2		Kms					
3		Kms					
	<b>Sub Total</b>		0				
<b>G</b>	<b>33 kV Line Bay Extension at EHV station</b>						
1		Nos.					
2		Nos.					
3		Nos.					
	<b>Sub Total</b>		0				
<b>H</b>	<b>11 kV Line : New Feeder/ Feeder Bifurcation</b>						
1	City-I=16 KM (Size of ACSR 80/50mm2) City-II=20 KM (Size of ACSR 80/50mm2) City-III=7.5 kM =5.0(Size of ACSR 80/50mm2) + 2.5 KM HT AB Cable Size 185mm2	Kms	43.5	0.00		-	
2	HUDA Sec=2.0 KM Mini Sec=2.50 KM City-IV M/Garh= 2.50 KM City-V M/Garh= 1.50 KM Chamdhera Road AP=5.0 Water Supply=3.00 KM Dulana Road AP=2.0 KM <b>Total = 18.50 KM</b>	Kms		18.50	6.70	123.95	City New
3		Kms				-	
	<b>Sub Total</b>		43.5	18.50		123.95	
<b>I</b>	<b>11 kV Line : Augmentation/Reconductoring</b>						
1		Kms					
2		Kms					
3		Kms					
	<b>Sub Total</b>		0				
<b>J</b>	<b>Arial Bunched Cable</b>						
i) HT							
	11 KV City-III	Kms	2.50				
		Kms					
		Kms					
	<b>Sub Total</b>		2.50				
ii) LT							
	11 KV City-I M/Garh	Kms					
	11 KV City-II M/Garh	Kms					
		Kms					
	<b>Sub Total</b>		0				
	<b>Total</b>		2.50				
<b>K</b>	<b>UG Cable</b>						
i) HT							
		Kms					
		Kms					
		Kms					
	<b>Sub Total</b>		0				
ii) LT							
		Kms	0				
		Kms	0				
		Kms	0				
	<b>Sub Total</b>		0				
	<b>Total</b>		0				
<b>L</b>	<b>11 KV Bay Extension</b>						
		Kms					
		Kms					
		Kms					
	<b>Sub Total</b>		0				
<b>M</b>	<b>Installation of Distribution Transformer</b>						

S. No.	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Cost proposed under IPDS		Reference
					Rs. Lac	Rs. Lac	
	Existing 16 KVA	Nos.		0			
	Existing 25 KVA	Nos.	17	0			
	Existing 63 KVA	Nos.	28				
	Existing 100 KVA	Nos.	74				
	Existing 200 KVA	Nos.	45				
	Existing 250 KVA	Nos.	3				
	Existing 315 KVA	Nos.	0				
	Existing 500 KVA	Nos.	2				
	Existing 615 KVA	Nos.					
	Installation of Distribution Transformer 63 KVA	Nos.					
	Installation of Distribution Transformer 100 KVA	Nos.		25	2.24	56.00	City New
	Installation of Distribution Transformer 200 KVA	Nos.		20	3.97	79.40	
	<b>Sub Total</b>		169	45	6	135.40	
<b>N</b>	<b>Capacity enhancement of LT sub-station</b>						
		Nos.					
		Nos.					
		Nos.					
	<b>Sub Total</b>		0	0		0	
<b>O</b>	<b>LT Line : New Feeder/ Feeder Bifurcation</b>						
	City-I= 24 KM (Size of ACSR 50mm2)	Kms					
	City-II= 18 KM (14 KM 4 Core cable +4 KM ACSR Size of ACSR 50mm2)		54				
	City-III= 12 KM (10 KM 4 Core cable +2 KM ACSR Size of ACSR 50mm2)						
		Kms					
		Kms					
	<b>Sub Total</b>		54				
<b>P</b>	<b>LT Line : Augmentation/Reconductoring</b>						
		Kms	54				
		Kms					
		Kms					
	<b>Sub Total</b>		54				
<b>Q</b>	<b>Capacitor Bank</b>						
		Nos.					
		Nos.					
		Nos.					
	<b>Sub Total</b>		0				
<b>R</b>	<b>HVDS</b>						
		Nos.					
		Nos.					
		Nos.					
	<b>Sub Total</b>		0				
<b>S</b>	<b>Metering</b>						
	i) Prepaid / smart meters in Govt. establishment	Nos.		98	0.12000	11.76	City New
	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.	1763	1763	0.03000	52.89	
	vi) Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.		0	0.01000	-	
	<b>Sub Total</b>		1763	1861.00	0.16	64.65	
<b>T</b>	<b>Provisioning of solar panel</b>						
	Location 1 Division Mohindergarh /(KVe)	KWe		1	1	1.000	City New
	Location 2 33 KV S/Stn HUDA Mahendergarh /(KVe)	KWe		1	1	1.000	
	Location 3 33 KV S/Stn DIET Mahendergarh /(KVe)	KWe		1	1	1.000	
	Net-Meters	Nos.					
	<b>Sub Total</b>		0	3		3.000	
<b>U</b>	<b>RMU,Sectionalizer, Auto reclosures, FPI etc.</b>						
	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/Sectionalizer 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.		0	0.0	0	
	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.					
	<b>Sub Total</b>		0	0		0	
<b>V</b>	<b>Provisioning of solar panel</b>						
	1 Additional PCC pole						
	2 Replacement of damaged poles with 9 mtr						
	3 Insertion of middle poles with 9 mtr						
	4 R&M of T/Fs						
	<b>Sub Total</b>		0				
	<b>Grand Total</b>					1,186.70	

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
1	Narnaul	Mohindergarh	1	10	33 KV HUDA M/Garh	400
2	Narnaul	Mohindergarh	1	10	33 KV DIET M/Garh	400
<b>Sub Total</b>			<b>2</b>	<b>20</b>		<b>800</b>

**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	Narnaul	Mohindergarh	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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	Narnaul	Mohindergarh	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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	Narnaul	New Feeder	220 kV Mohindergarh	33 KV HUDA M/Garh	1.5	14.925
2	Narnaul	New Feeder	220 kV Mohindergarh	33 KV DIET M/Garh	4.5	44.775
<b>Sub Total</b>					<b>6</b>	<b>59.7</b>

**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)
1	Mohindergarh	-	-	-	-	0
<b>Sub Total</b>						<b>0</b>

**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	Mohindergarh	New Feeder	33 KV HUDA M/Garh	11 KV HUDA M/Garh	2.000	13.400
2	Mohindergarh	New Feeder	33 KV HUDA M/Garh	11 KV Mini Sect M/Garh	2.500	16.750
3	Mohindergarh	New Feeder	33 KV HUDA M/Garh	11 KV City-IV M/Garh	2.500	16.750
4	Mohindergarh	New Feeder	33 KV HUDA M/Garh	11 KV Chamdhera AP	5.000	33.500
5	Mohindergarh	New Feeder	33 KV DIET M/Garh	11 KV City-V M/Garh	1.500	10.050
6	Mohindergarh	New Feeder	33 KV DIET M/Garh	11 KV Water Supply	3.000	20.100
7	Mohindergarh	New Feeder	33 KV DIET M/Garh	11 KV Dulana Road AP	2.000	13.400
<b>Sub Total</b>					<b>18.500</b>	<b>123.95</b>

**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
1	Mohindergarh	Augmentation	220 KV S/Stn Mohindergarh	11 KV City-I M/Garh	30/50mm2	20
2	Mohindergarh	Augmentation	220 KV S/Stn Mohindergarh	11 KV City-II M/Garh	30/50mm2	26
3	Mohindergarh	Augmentation	220 KV S/Stn Mohindergarh	11 KV City-II M/Garh	30/50mm2	9
<b>Sub Total</b>						<b>55</b>

**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	Mohindergarh	3Cx120 +1x70 Sqmm	220 KV S/Stn Mohindergarh	11 KV City-I M/Garh	30	147.9
2	Mohindergarh	3Cx120 +1x70 Sqmm	220 KV S/Stn Mohindergarh	11 KV City-II M/Garh	18	88.74
<b>Sub Total</b>					<b>48</b>	<b>236.64</b>

**J.UG Cable**

Unit Rate @ Rs 3

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	Mohindergarh	3x300Sqmm	-	-	0	0
<b>Sub Total</b>					<b>0</b>	<b>0</b>

**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)
1	Narnaul	220 KV S/Stn M/Garh	11 KV City-I M/Garh	4	8.96	6
2	Narnaul	220 KV S/Stn M/Garh	11 KV City-II M/Garh	8	17.92	7
3	Narnaul	220 KV S/Stn M/Garh	11 KV City-III M/Garh	13	29.12	7
<b>Sub Total</b>				<b>25</b>	<b>56</b>	<b>20</b>
<b>Total Cost</b>				<b>135.4</b>		

**List of Govt Esestablishments where Prepaid Meter are to be installed.**

Sr No.	IPDS Town	Name of Govt Esestablishment	Total Nos of Prepaid meter Requirement	Unit rate @ Rs 0.12 Lac / meter
1	Mohindergarh	S.D.O PUBLIC HEALTH , NEAR DHOLPOSH GAUSALA M/GARH	1	0.12
2	Mohindergarh	SDO PWD REST HOUSE , NEAR KILA MOHINDERGARH	1	0.12
3	Mohindergarh	SAINIK REST HOUSE , ARMY CANTEEN ITI ROAD M/GARH	1	0.12
4	Mohindergarh	SUB DIVN ENGINEER , IN FRONT ITI M/GARH	1	0.12
5	Mohindergarh	OFFICE OF JE ELECTRIC , B & R IN FRONT OF ITI M/GARH	1	0.12
6	Mohindergarh	MANAGER G K S , ARMY CANTEEN E O CUM SECRETARY MARKET	1	0.12
7	Mohindergarh	COMMITTEE , SABJI MANDI ROAD M/GARH	1	0.12
8	Mohindergarh	ASSTT ENGINEER DOORDARSHAN RELAY CENTRE , NR OLD PWD REST HOUSE M/GARH	1	0.12
9	Mohindergarh	G.M HARYANA ROADWAYS , M/GARH	1	0.12
10	Mohindergarh	MANAGER STATE BANK OF PATIALA, NARNAUL ROAD M/GARH	1	0.12
	Mohindergarh	XEN OP DIVN DHBVN , NARNAUL ROAD M/GARH	1	0.12
	Mohindergarh	SSE 220KV S/STN SEWERAGE SYSTEM , 220KV HVPN COLONY M/GARH	1	0.12
	Mohindergarh	SSE 220KV S/STN STREET LIGHT CONNECTIN , 220KV HVPN COLONY M/GARH	1	0.12
	Mohindergarh	SHO POLICE STATION MOHINDERGARH	1	0.12
	Mohindergarh	CO OP BANK , ANAJ MANDI ROAD MOHINDERGARH	1	0.12
	Mohindergarh	OFFICER MARKET COMMITTEE , BEHIND ANAJ MANDI MOHINDERGARH	1	0.12
	Mohindergarh	MANAGER STATE BANK OF PATIALA , OPP SADAR THANA MOHINDERGARH	1	0.12
	Mohindergarh	SDO CANAL , RAILWAY ROAD MOHINDERGARH	1	0.12
	Mohindergarh	SDO CANAL REST HOUSE, RAILWAY ROAD MOHINDERGARH	1	0.12
	Mohindergarh	PRINCIPAL I.T.I , OPP. BUS STAND MOHINDERGARH	1	0.12
	Mohindergarh	MANAGER STATE WARE HOUSE, ANAJ MANDI MOHINDERGARH	1	0.12
	Mohindergarh	INCHARGE CIA OFFICE , ANAJ MANDI MOHINDERGARH	1	0.12
	Mohindergarh	D.S.P. , ANAJ MANDI MOHINDERGARH	1	0.12
	Mohindergarh	S.D.O TELEPHON EXCHAND , RAILWAY ROAD MOHINDERGARH	1	0.12
	Mohindergarh	MANGER CENTRAL BANK OF I, RAILWAY ROAD M/GARH	1	0.12
	Mohindergarh	S.D.O OP S/U S/DIVN , ANAJ MANDI MOHINDERGARH	1	0.12
	Mohindergarh	SECRETARY MUNICIPAL , COMMITTEE NEAR OVER BRIDGE	1	0.12
	Mohindergarh	SECRETARY MUNICIPAL , COMMITTEE GAUSHALA ROAD M/GARH	1	0.12
	Mohindergarh	SDO WATER SERVICES S/DIVN. NO.1 , CANAL COLONY MOHINDERGARH	1	0.12
	Mohindergarh	VIKAS KHAND ADHIKARI , MOHINDERGARH	1	0.12
	Mohindergarh	HEAD MASTER GIRL HIGH SCHOOL , M GARH	1	0.12
	Mohindergarh	SH INCHARJ P C ,	1	0.12
	Mohindergarh	RANGE FOREST OFFCE , M.GARH	1	0.12
	Mohindergarh	SOLI TESTING OFFICER , NEAR K.G. K. M GARH	1	0.12
	Mohindergarh	SH PRINCIPAL , DULLA ROAD	1	0.12



Mohindergarh	PRINCIPAL GOVT.GIRLS S.SEC. SCHOOL ,M/GARH	1	0.12
Mohindergarh	XEN PUBLIC HEALTH ,S/DIVIN NO.2 MAIN BOOSTER M.GARH	1	0.12
Mohindergarh	SDE.PUBLIC HEALTH ,S/DIVIN NO2 MAIN BOOSTER M.GARH	1	0.12
Mohindergarh	PRINCIPAL D.I.E.T , DULANA ROAD M/GARH	1	0.12
Mohindergarh	S.D.O OP CITY S/DIVN , BUCHOLI ROAD MOHINDERGARH	1	0.12
Mohindergarh	RANGER FOREST OFFICER , REST HOUSE M.GARH	1	0.12
Mohindergarh	PRESIDENT MUNICIPAL , MOH.KHATIKAN MAHENDERGARH	1	0.12
Mohindergarh	PRINCIPAL GOVT. MODEL SANSKRITI SCHOOL , COLLAGE ROAD M/GARH	1	0.12
Mohindergarh	S.D.O TELIPHONE EXCHANGE, SAINI PURA M/GARH	1	0.12
Mohindergarh	SEVRETARY DISTRICT SPORT, MINI STADIUM GOVT BOY COLLEGE	1	0.12
Mohindergarh	BLOCK EDUCATION OFFICER , MINI SECTRIAT ROOM 215 M/GARH	1	0.12
Mohindergarh	SDO CAHDAIRYING , MINI SECTRIAT MOHINDERGARH	1	0.12
Mohindergarh	ASSTT EMPLOYMENT OFFICER, MINI SECTRIAT MOHINDERGARH	1	0.12
Mohindergarh	FISHERIES OFFICER , MENI SECTRIAT ROOM 205 M/GARH	1	0.12
Mohindergarh	A.P.R.O OFFICER , MOHINDERGARH	1	0.12
Mohindergarh	DY SUURINTEDED OF POLICE, MINI SECTRATE ROON NO 210 M/GARH	1	0.12
Mohindergarh	CHILD DEVELOPMENT PROJECT, MINI SECTRATE ROOM NO 227 M/GARH	1	0.12
Mohindergarh	ASSTT TREASURY OFFICER , MINI SECTRATE>NNL ROAD M/GARH	1	0.12
Mohindergarh	ASSTT SOIL CONESRAVTION , MINI SECTRATE>NNL ROAD M/GARH	1	0.12
Mohindergarh	SECRETARY MUNICIPAL , COMMITTEE NEAR COLLAGE GATE	1	0.12
Mohindergarh	PRESIDENT BAR ASSOCIATION, MINI SECTRATE MOHINDERGARH	1	0.12
Mohindergarh	CIVIL HOSPITAL, MOHINDER GARH	1	0.12
Mohindergarh	PRINCIPAL , GOVT. COLLEGE BOYS M/GARH	1	0.12
Mohindergarh	S.D.O TELIPHONE EXCHANGE , COURT ROAD M-GARH	1	0.12
Mohindergarh	BRACH MANAGER BANK OF INDIA , TULA RAM CHOWK M/GARH	1	0.12
Mohindergarh	MINI SECTRATE, NARNAUL ROAD M/GARH	1	0.12
Mohindergarh	SEGY. MARKET COMMITTEE, MANDI M-GARH	1	0.12
Mohindergarh	MANAGER CENTRAL CO-OP BANK, RAILWAY ROAD M-GARH	1	0.12
Mohindergarh	S.D.O. CANAL, RAILWAY ROAD M-GARH	1	0.12
Mohindergarh	D.F.O. FACTORY, MOHINDERGARH	1	0.12
Mohindergarh	SSE 220KV S/STN W/SUPPLY, 220KV HVPN COLONY M/GARH	1	0.12
Mohindergarh	SSE 220KV S/STN W/SUPPLY, 220KV HVPN COLONY M/GARH	1	0.12
Mohindergarh	PRINCEPLE GOVT. COLLEGE, M/GARH	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, OLD ARYA SMAJ MANDIR	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, MOHLA SAINI PURA	1	0.12
Mohindergarh	SDE PUBLIC HEALTH, MOH-SARAI M/GARH	1	0.12
Mohindergarh	SDE PUBLIC HEALTH, MOH.BALMIKI M/GARH	1	0.12
Mohindergarh	SDE PHE S/DIVISION, SITE AT BASS MOHALLA	1	0.12
Mohindergarh	S.M.O CHC, CIVIL HOSPITAL M/GARH	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, NEAR DHOLPASS M/GARH	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, ITI M/GARH	1	0.12
Mohindergarh	MUNICIPAL COMMITTE, CHAMDHERA ROAD M/GARH	1	0.12
Mohindergarh	MUNICIPAL COMMITTEE, NEAR DEIT M/GARH	1	0.12
Mohindergarh	MUNICIPAL COMMITTEE, NEAR KRISHI GAYAN KENDER	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, NEAR KUMARAIN M/GARH	1	0.12
Mohindergarh	SDE PUBLIC HEALTH , MOH. JAWAHR NAGAR	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, NEAR ANAJ MANDI	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, NEAR NURSARY M/GARH	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, BUSTER CIVIL HOSPITAL M/GARH	1	0.12
Mohindergarh	S.D.O PUBLIC HEALTH, MOH. PUNJABI M/GARH	1	0.12

	Mohindergarh	S.D.O PUBLIC HEALTH, DULANA ROAD M/GARH	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, NR. PEER BABA M/GARH	1	0.12
	Mohindergarh	S.D.O PUBLIC HEALTH, CHC HOSPITAL M/GARH	1	0.12
	Mohindergarh	SDO P/H , CIVIL COMPLEX M/GARH	1	0.12
	Mohindergarh	SDE PUBLIC HEALTH S/DIV NO.4 , KARAM CHARI COLONY M/GARH	1	0.12
	Mohindergarh	SDO TELIPHONE EXCHAGE, M/GARH	1	0.12
	Mohindergarh	PRINCIPAL ITI, MOHINDER GARH	1	0.12
	Mohindergarh	SDJM NEW COURT COMPLEX , NARNAUL ROAD M/GARH	1	0.12
	Mohindergarh	SECRETORY MUNICIPAL COMMITE , HUDA PARK M/GARH	1	0.12
	Mohindergarh	SDE P/HEALTH SEWERAGE TREATMENT, DULANA ROAD M/GARH	1	0.12
	Mohindergarh	S.D.E PUBLIC HEALTH S/DIVIN. NO4, NEAR PUNCH MUKHI MANDIR M/GARH	1	0.12
	Mohindergarh	S.D.E PUBLIC HEALTH S/DIVIN. NO4, CAMPUS BOOSTING STATION M/GRAH	1	0.12
	Mohindergarh	PRINCIPAL GOVT. COLLEGE FOR WOMEN, NARNAUL ROAD OPP. COURT COMPLEX	1	0.12
<b>Sub Total</b>			<b>98</b>	<b>11.76</b>

#### 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 Mohindergarh

Sr No	IPDS Town	Name of Office	unit	Unit Cost @ Rs 1 Lac per KVE
1	Mohindergarh	Division office	1 kVe	1
1	Mohindergarh	33 KV HUDA M/Garh	1 kVe	1
1	Mohindergarh	33 KV DIET M/Garh	1 kVe	1

#### 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
1	Mohindergarh	-	-	-	-

Unit Rate @ 7.55 Lac/Km
0
<b>0</b>

Unit Rate @ 4.66 lac/Km
93.2
121.16
41.94
<b>256.3</b>

1.64 Lacs/KM

Unit Rate for 200 KVA DT @3.97
23.82
27.79
27.79
79.4





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

Volume IIa: SUMMARY Project Cost

Kanina

**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	1.300	8.71
I	11 kV Line : Augmentation/Reconductoring	Kms	0	0.00
J	Arial Bunched Cable	Kms	0	0.00
K	UG Cable	Kms	0.000	0.00
L	11 KV Bay Extension	Kms	0	0.00
M	Installation of Distribution Transformer	Nos.	15	42.25
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.	896	26.88
T	Provisioning of solar panel	Lot	1	1.00
U	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	0	0.00
V	Others	Lot	0	0.00
	<b>GRAND TOTAL</b>			<b>78.84</b>

**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 Kanina town) Kanina**

**Bill of Quantities**

S. No	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price		Reference
					Rs. Lac	Cost proposed under IPDS Rs. Lac	
<b>A</b>	<b>33/11 KV S/S : New</b>						
1		Nos					
2		Nos					
3		Nos.					
	<b>Sub Total</b>		<b>0</b>				
<b>B</b>	<b>33/11 KV S/S : Additional Transformer</b>						
1		Nos.					
2		Nos.					
3		Nos.					
	<b>Sub Total</b>		<b>0</b>				
<b>C</b>	<b>33/11 KV S/S : Transformer capacity enhancement</b>						
1		Nos.					
2		Nos.					
3		Nos.					
	<b>Sub Total</b>		<b>0</b>				
<b>D</b>	<b>Renovation &amp; Modernisation of 33/11 kV SS</b>						
1		Nos.					
2		Nos.					
3		Nos.					
	<b>Sub Total</b>		<b>0</b>				
<b>E</b>	<b>New 33 KV new feeders/Bifurcation of feeders:</b>						
1		Kms					
2		Kms					
3		Kms					
	<b>Sub Total</b>		<b>0</b>				
<b>F</b>	<b>33 KV feeders Reconductoring/Augmentation</b>						
1		Kms					
2		Kms					
3		Kms					
	<b>Sub Total</b>		<b>0</b>				
<b>G</b>	<b>33 kV Line Bay Extension at EHV station</b>						
1		Nos					
2		Nos					
3		Nos					
	<b>Sub Total</b>		<b>0</b>				
<b>H</b>	<b>11 kV Line : New Feeder/ Feeder Bifurcation</b>						
1	11 KV City-I = 16km ACSR Size 100mm2 11 KV City-II = 8km	Kms	24			-	Kanina New
2	Kanina = 1.3 km ACSR	Kms		1.30	6.70	8.71	
3		Kms				-	
	<b>Sub Total</b>		<b>24</b>	<b>1.30</b>		<b>8.71</b>	
<b>I</b>	<b>11 KV Line : Augmentation/Reconductoring</b>						
1	11 KV City-I = 19km ACSR Size 50/30mm2 11 KV City-II = 5km ACSR Size 50/30mm2	Kms	24.00				
2	11 KV City-I Kanina	Kms					
3	11 KV City-II Kanina	Kms					
	<b>Sub Total</b>		<b>24</b>				
<b>J</b>	<b>Arial Bunched Cable</b>						
i)	<b>HT</b>						
		Kms					
		Kms					
		Kms					
	<b>Sub Total</b>		<b>0</b>				
ii)	<b>LT</b>						
	11 KV City-I Kanina	Kms					
	11 KV City-II Kanina	Kms					
		Kms					
	<b>Sub Total</b>		<b>0</b>				
	<b>Total</b>		<b>0</b>				
<b>K</b>	<b>UG Cable</b>						
i)	<b>HT</b>						
	Kanina = 3/c 300 mm2 (From Power House to 1st- H pole)	Kms					
		Kms					
		Kms					
	<b>Sub Total</b>		<b>0</b>				
ii)	<b>LT</b>						
		Kms	0				
		Kms	0				
		Kms	0				
	<b>Sub Total</b>		<b>0</b>				
	<b>Total</b>		<b>0</b>				
<b>L</b>	<b>11 KV Bay Extension</b>						
		Kms					
		Kms					
		Kms					
	<b>Sub Total</b>		<b>0</b>				
<b>M</b>	<b>Installation of Distribution Transformer</b>	MVA	11.13				
	Existing 16 KVA	Nos.	5		-	-	
	Existing 25 KVA	Nos.	15		-	-	
	Existing 63 KVA	Nos.	15		-	-	



S. #	Item Details	Unit	Existing/ Current Position	Qty proposed under IPDS	Unit Price		Reference
					Rs. Lac	Cost proposed under IPDS Rs. Lac	
	Existing 100 KVA	Nos.	28			-	
	Existing 200 KVA	Nos.	30			-	
	Existing 250 KVA	Nos.	0			-	
	Existing 315 KVA	Nos.	1			-	
	Existing 500 KVA	Nos.	0			-	
	Existing 615 KVA	Nos.	1			-	
	Installation of Distribution Transformer 63 KVA	Nos.				-	
	Installation of Distribution Transformer 100 KVA	Nos.		10	2.24	22.40	Kanina New
	Installation of Distribution Transformer 200 KVA	Nos.		5	3.97	19.85	
	<b>Sub Total</b>		<b>95</b>	<b>15</b>		<b>42.25</b>	
<b>N</b>	<b>Capacity enhancement of LT sub-station</b>						
		Nos.					
		Nos.					
		Nos.					
	<b>Sub Total</b>		<b>0</b>	<b>0</b>		<b>0</b>	
<b>O</b>	<b>LT Line : New Feeder/ Feeder Bifurcation</b>						
	11 KV City-I = 16km	Kms	24				
	11 KV City-II = 8km	Kms					
		Kms					
	<b>Sub Total</b>		<b>24</b>				
<b>P</b>	<b>LT Line : Augmentation/Reconductoring</b>						
	11 KV City-I = 16km	Kms	24				
	11 KV City-II = 8km	Kms					
		Kms					
	<b>Sub Total</b>		<b>24</b>				
<b>Q</b>	<b>Capacitor Bank</b>						
		Nos.					
		Nos.					
		Nos.					
	<b>Sub Total</b>		<b>0</b>				
<b>R</b>	<b>HVDS</b>						
		Nos.					
		Nos.					
		Nos.					
	<b>Sub Total</b>		<b>0</b>				
<b>S</b>	<b>Metering</b>						
	j) Prepaid / smart meters in Govt. establishment	Nos.		0	-	-	
	ii) AMI, Smart meters in the towns where SCADA being established under R-APDRP.	Nos.					
	iii) Boundary meters for rmg 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.	896	896	0.03000	26.88	
	vi) Installation of Pillar Box for relocation of meters outside the premises of consumers including associated cables and accessories	Nos.		0	-	-	
	<b>Sub Total</b>		<b>896</b>	<b>896</b>	<b>0</b>	<b>26.88</b>	
<b>T</b>	<b>Provisioning of solar panel</b>						
	Location 1 SDO office Kanina /(KVe )	Nos.		1	1	1	Kanina New
	Location 2 ...../( Capacity)	Nos.					
	Location 3 ...../( Capacity)	Nos.					
	Net-Meters	Nos.					
	<b>Sub Total</b>		<b>0</b>	<b>1</b>		<b>1</b>	
<b>U</b>	<b>RMU,Sectionaliser, Auto reclosures, FPI etc.</b>						
	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.	0	0	0.0	0.0	
	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 tor breaker/switches operation for cap bank alongwith aux power supply to operate sw/breaker .	Nos.					
	<b>Sub Total</b>		<b>0</b>	<b>0</b>		<b>0.0</b>	
<b>V</b>	<b>Provisioning of solar panel</b>						
	1 Additional PCC pole						
	2 Replacement of damaged poles with 9 mtr						
	3 Insertion of middle poles with 9 mtr						
	4 R & M of T/Fs						
	<b>Sub Total</b>		<b>0</b>				
	<b>Grand Total</b>					<b>78.84</b>	

Not 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
1	Narnaul	Kanina	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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	Narnaul	Kanina	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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	Narnaul	Kanina	0	0		0
<b>Sub Total</b>			<b>0</b>	<b>0</b>		<b>0</b>

**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
1	Narnaul	-	-	-	0	0
<b>Sub Total</b>						<b>0</b>

**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)
1	Kanina	-	-	-	-	0
<b>Sub Total</b>						<b>0</b>

**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	Kanina	New Feeder	132 KV S/Stn Kanina	11 KV City-III Kanina	1.300	8.710
<b>Sub Total</b>					<b>1.300</b>	<b>8.71</b>

**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
1	Kanina	Augmentation	132 KV S/Stn Kanina	11 KV City-I Kanina	30/50mm2	7
1	Kanina	Augmentation	132 KV S/Stn Kanina	11 KV City-II Kanina	30/50mm2	3
<b>Sub Total</b>						<b>10</b>

**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	Kanina	(3Cx120 +1x70 Sqmm)	132 KV S/Stn Kanina	11 KV City-I Kanina	25	123.25
2	Kanina	(3Cx120 +1x70 Sqmm)	132 KV S/Stn Kanina	11 KV City-II Kanina	15	73.95
<b>Sub Total</b>					<b>40</b>	<b>197.2</b>

**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	Kanina	3x300Sqmm	132 KV S/Stn Kanina	11 KV City-III Kanina	0.3	9.492
<b>Sub Total</b>					<b>0.3</b>	<b>9.492</b>

**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)
1	Narnaul	132 KV S/Stn. Kanina	City-1 Kanina	5	11.2	3
2	Narnaul	132 KV S/Stn. Kanina	City-II Kanina	5	11.2	2

Sub Total			10	22.4	5
<b>Total Cost</b>			<b>42.25</b>		

**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	Kanina	-	0	0
<b>Sub Total</b>			<b>0</b>	<b>0</b>

**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

Sr No	IPDS Town	Name of Office	unit	Unit Cost @ Rs 1 Lac per KVE
1	Kanina	Kanina office	1 kVe	1

**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
1	Kanina	132 KV S/Stn Kanina	11 kV/0.4 kv)		

Unit Rate @ 7.55 Lac/Km
0
<b>0</b>

Unit Rate @ 4.66 lac/Km
32.62
13.98
<b>46.6</b>

Unit Rate for 200 KVA DT @3.97
11.91
7.94



**Project Benefits:**

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

Implementation of the project will facilitate to achieve Utility/ Circle ( Project Area) level AT&C Loss reduction trajectory as per Annexure-III of IPDS Guidelines is shown below:		
Base Year: AT&C Loss for FY 2014-15	%	46.45%
FY 15-16	%	44.13%
FY 16-17	%	41.92%
FY 17-18	%	39.83%
FY 18-19	%	37.83%
FY 19-20	%	35.94%
FY 20-21	%	34.15%
FY 21-22	%	32.44%

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.