1.0 SCOPE OF WORK

This project aims to identify and survey the habitations for conversion of LT bare conductors/ damaged or deteriorated AB cable with new AB Cable/ Armoured cable in Paschimanchal Vidyut Vitaran Nigam Limited (PVVNL), Meerut of Uttar Pradesh which provides higher safety and reliability, lower power losses and ultimate system economy by reducing installation, maintenance, and operative cost. The estimated numbers of workable habitations in the Discom having population greater than 500 where replacement of bare LT conductors with AB Cable would be required is as below:

Sl. No.	Discom	Estimated number of habitations
1	PVVNL	6000
Total		6,000

The Scope of Work is detailed below:

2.1. Identification of habitations for survey for replacement of LT bare conductors with AB Cable. Agency shall collect the feeder-wise loss data from the Discom which are not considered in any other scheme such as RDSS, ADB Tranche-1 etc.

2.2. The agency shall map all the DTRs of corresponding feeders with villages/habitations on the feeders. Based on this data agency shall prepare a list of habitations and DTRs. Indicative list of habitations is as below:

Discom	District	Division	Block	33/11 kV S/S	Feeder	Feeder Loss	Habitation	DTR Capacity
Discom	District 1	Division -1	Block -1	S/S 1	Feeder 1		Habitation 1	400 KVA
								250 KVA
								100 KVA
								63 KVA
								25 KVA
								16 KVA
							Habitation 1	400 KVA

Discom	District	Division	Block	33/11 kV S/S	Feeder	Feeder Loss	Habitation	DTR Capacity
								250 KVA
								100 KVA
								63 KVA
								25 KVA
								16 KVA
							…….....	…….....

Based on above table, the agency shall prepare list of habitations based on the AT&C losses as per below table:

Discom	Population	AT&C Losses						
		>70%	**61% - 70%**	**56% - 69%**	**41% - 55%**	**31%- 40%**	**21% - 30%**	**<20%**
	>1000	Name of habitations	Name of habitations	Name of habitations	Name of habitations	Name of habitations	Name of habitations	Name of habitations
	Sub - Total 1(nos.)	a	b	c	d	e	f	g
	501 - 1000	Name of habitations	Name of habitations	Name of habitations	Name of habitations	Name of habitations	Name of habitations	Name of habitations
	Sub - Total 2(nos.)	h	i	j	k	l	m	n
	<500	Name of habitations	Name of habitations	Name of habitations	Name of habitations	Name of habitations	Name of habitations	Name of habitations

Discom	Population	AT&C Losses						
		>70%	**61% - 70%**	**56% - 69%**	**41% - 55%**	**31%- 40%**	**21% - 30%**	**<20%**
	Sub - Total 3(nos.)	o	p	q	r	s	t	u
	Grand Total	a+h+o	b+i+p	c+j+q	d+k+r	e+l+s	f+m+t	g+n+u

2.3. After preparing the list by the above method, the agency shall cross check the habitations with 2011 census data to ensure that no habitations are left out. The agency/bidder and Discom shall ensure that no habitations above population 500 shall be left out in DPR.

2.4. The agency shall arrange a stakeholder consultation with Discom and Zone offices to finalize the list where the survey is required to be carried out.

2.5. The agency shall survey all the habitations suggested by the Discom. Habitations wherever no LT line with bare conductor or no damaged AB cable in case bare conductors are already replaced previously, is identified it shall be considered as a non-workable habitation. In habitations wherein scope of work for LT AB cable/Armoured cable replacement is available, the agency needs to carry out a GIS/GPS based detailed survey. The following details shall be captured in the detailed survey:

2.6. The coordinates of first pole and last pole of all the segments/circuits where AB cable work is proposed.

2.7. The details of associated DTRs shall be captured in a format finalized in consultation with the Discom. The details shall be but not limited to DTR capacity, Connected Load, Number of consumers connected, Number of circuit, availability of LTDB/ damaged LTDB, streetlight connections etc.

2.8. It shall be noted that agency shall only be paid for workable habitations.

2.9. The agency shall also identify high loss pockets during the survey and recommend sections for installation of XLPE Armoured cable. However, final decision for installing XLPE cables in those sections lies with the Discom.

2.10. During the survey the agency shall also consider damaged pole or tilted pole to be replaced with new pole. The agency shall also consider, damaged /missing pole earthings, damaged/missing stay sets wherever required. Damaged poles means the poles which are structurally compromised and poses a potential threat to efficient operation and public safety.

2.11. The agency shall develop an excel template in consultation with Discom to capture the habitation wise information (population, households etc.) and details of proposed poles and bare conductor to be replaced along with details of associated DTRs.

2.12. During the survey the agency shall also consider damaged pole to be replaced with new pole. Damaged pole shall also include tilted pole if any in the existing infrastructure. The BoQ shall also be finalized taking into account the replacement of these damaged poles with new

poles.

2.13. Based on the survey the agency shall also provide the details of those transformers which requires capacity augmentation. For this exercise, the agency shall take into account the connected load and number of consumers connected on the DTR.

2.14. The agency needs to prepare habitation -wise SLDs of proposed infrastructure in PLS CAD. The agency shall also submit photographs along with latitude and longitude coordinates of the sections where it has proposed AB Cable/Armoured cable in workable habitations.

2.15. The agency shall submit the detailed Bill of Quantity (BoQ) as per the sample Bill of Quantity (BoQ) enclosed (refer Appendix-C) with this RFP. However, the agency shall have the provision to add/delete any line items mentioned in sample BoQ based on site requirements in consultation with the Discom.

2.16. The agency shall identify habitation wherein there is requirement of diversion from existing route of circuit while AB cable replacement work is to be carried out. It shall also record the type of lands to be used for the diverted route whether Govt., private etc.

2.17. The agency shall identify the habitations falling under 10 km protective zone or core zone in National parks, sanctuaries, or any other eco-sensitive zones. Apart from it the agency shall also identify any hindrances (RoW, Forest area etc.) in carrying out the work in proposed habitations. These details shall be submitted in a defined template approved by the Discom.

2.18. The respective JE will verify 100% of workable habitations proposed by the agency and respective SDOs, Executive Engineer, Superintending Engineer and Chief Engineer will verify at least 20%, 15%, 10% and 5% of the workable habitations proposed by the agency respectively, in case any discrepancy is found then penalty would be levied on the agency in accordance with Clause 1.1 (ii) of Schedule of Payment (Appendix-B)

2.0 DELIVERABLES

3.1. The consultant shall provide us the deliverables as per following:

i. List of habitations mapped with feeders, DTRs and corresponding AT&C losses, population and number of households.
ii. Habitation wise BoQ of replacement of bare conductors with AB Cable/Armoured Cable.
iii. Habitation wise Single Line Diagram (SLD) of proposed AB Cable replacement works in PLS CAD.
iv. Photographs of the sections/segments proposed for AB Cable in workable habitations with latitude and longitude coordinates of starting pole and end pole along with coordinates of DTRs.
v. Habitation wise GIS/GPS details of segments proposed for replacement of bare conductors with AB Cable/Armoured Cable.
vi. Habitation wise cost estimates based on RESSPO 2022 schedule rates.
vii. Habitation – wise Cost-benefit analysis and payback period of the project based on loss data provided by the Discom.

viii. Detailed DPR (District/Block/Substation/Village/Habitation) consisting of all the above documents.

Others

i. The consultant should submit six (3) copies of the report along with its soft copy in a USB drive mentioned at 3.0 above

ii. The above scope of assignment broadly covers all the aspects, however, any item not specifically mentioned but required to complete the report shall be deemed to have been included in the scope of work.

3.0 TIMELINES

4.1. The complete Scope of Work shall be completed within ninety (90) days from the date of issuance of Letter of Award (LOA) as per timeline mentioned below:

Sl. No	Description	Timeline
1	List of habitations mapped with feeders and corresponding AT&C losses, population and number of households.	Within 30 days from the issuance of Letter of award by PVVNL
2	i. Habitation wise BoQ of replacement of bare conductors with AB Cable/Armoured Cable. ii. Habitation wise Single Line Diagram (SLD) of proposed AB Cable replacement works in PLS CAD. iii. Habitation wise GIS details of segments proposed for replacement of bare conductors with AB Cable/Armoured Cable. iv. Habitation wise cost estimates based on RESSPO 2022 schedule rates. v. Activity wise cost estimates based on RESSPO 2022 scheduled rates.	Within 60 days From submission of list of habitations mapped with feeders and corresponding AT&C losses, population and number of households

3	Final Detail project report summarizing the results, opinions and conclusions of the aforementioned scope	Within 30 days after giving presentation to PVVNL & finalization of inputs (120 days from issuance of LOA)
Total time		120 Days