

Need Assessment Document (NAD)

DDUGJY



सत्यमेव जयते

MINISTRY OF POWER
GOVERNMENT OF INDIA

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1.0) General Instruction

- The utilities shall prepare a consolidated Need Assessment Document (NAD) with relevant information of their licensee area along with justifications (preferably by way of load flow studies) to substantiate the proposed scope of work and cost estimates based on recent schedule of rates.
- The utilities will identify need for feeder separation and critical gaps in sub-transmission and distribution network considering all relevant parameters such as:
 - 1) Consumer mix,
 - 2) Consumption pattern,
 - 3) Voltage regulation,
 - 4) AT&C loss level,
 - 5) HT & LT ratio,
 - 6) Loading of power & distribution transformers,
 - 7) Loading of feeders / lines,
 - 8) Reactive power,
 - 9) Power factor,
 - 10) Improvement in standard of performance
 - 11) On-going works under other schemes for efficient management of distribution system.
- The NAD will be examined by the nodal agency to arrive at broad scope of work to be covered under the scheme and the total cost in consultation with the concerned utilities. The utility / state shall ensure availability of power to achieve the target of 24x7 power supply for non-agricultural consumers, progressively in rural areas.
- Based on the broad scope of work validated by nodal agency, the utilities will formulate district/circle/zone wise bankable Detailed Project Reports (DPRs) in line with the approved NAD. DPRs should be based on detailed field survey and latest approved schedule of rates for various items of work.
- 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. Grant shall be extended on the sanctioned cost or award cost of the project, whichever is lower.

- The works in Gram Panchayat selected under SaansadAdarsh Gram Yojana (SAGY) shall necessary be included in the DPR. While formulating DPRs, utility shall necessarily consult the public representatives including Member of Parliament. Utility shall furnish a certificate to this effect while submitting DPRs to Nodal Agency.

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2.0) Objectives of DDUGJY:

The Broad monitorable Objectives for prioritizing the works under the scheme shall be:

- (i) 24x7 power supply for non-agricultural consumers and adequate power supply for agricultural consumers,
 - (ii) Reduction of AT&C losses as per trajectory (discom-wise) finalized by the Ministry of Power in consultation with States and
 - (iii) Providing access to all rural households.
- The utility to prepare the NAD/ DPR categorized under the broad head of objectives:

SNo.	Objective	Broad Scope
1	24X7 power supply for non-Ag consumer and adequate supply for Ag consumer <ol style="list-style-type: none"> i. Physical separation of HT feeders for Agricultural and non-Agricultural consumers ii. Virtual separation of feeders 	<ul style="list-style-type: none"> • Feeder Separation(Physical / Virtual) • Reorientation of feeders • Associated infrastructure
2	AT&C loss reduction <ol style="list-style-type: none"> i. Strengthening of sub-transmission and distribution system ii. Metering 	<ul style="list-style-type: none"> • Sub-stations • HT/ LT lines • Distribution Transformers • Meters • ABC Cables
3	Access of Power <ol style="list-style-type: none"> i. Creation of new infrastructure 	<ul style="list-style-type: none"> • HT/ LT lines • Distribution Transformers • Meters • ABC Cables • Micro grid • BPL service connections

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- The NAD document shall consist of following format for submission of structured information:

SNo.	Details	Information Sought
1	General Information under 4.0	<ul style="list-style-type: none">• General Details of project area• Power supply details• Details of on-going schemes• Details of consumers• Details of households• Details of villages
2	Details of existing Infrastructure under 5.0	<ul style="list-style-type: none">• Substations• Feeders• Distribution Transformers• LT line• Meters
3	Costing under 6.0	<ul style="list-style-type: none">• Cost data and schedule of rates to be provided as attachments (utility wise)
4	Proposed Infrastructure Under 7.0	<ul style="list-style-type: none">• New Substations• Augmentation of• Feeders• Distribution Transformers• LT line• Capacitor Banks• Meters
5	Objective based cost segregation Under 8.0	<ul style="list-style-type: none">• Objective based costing

3.0) Scope of Works

A. The projects under the scheme shall be formulated for rural areas only and will cover works relating to:

i. Feeder Separation

(i) Physical separation of HT feeders for Agricultural and non-Agricultural consumers:

- a. Erection of HT lines for drawing new feeders and reorientation/re-alignment of existing lines.
- b. Installation of new distribution transformers and augmentation of existing distribution transformers.
- c. Re-location of distribution transformers and associated LT lines for re-grouping of consumers (Agricultural and Non-Agricultural).

(ii) Virtual separation of feeders :

- a. Installation of new distribution transformers and augmentation of existing distribution transformers.
- b. Re-location of distribution transformers and associated LT lines for re-grouping of consumers (Agricultural and Non-Agricultural).
- c. Installation of rotary switch and associated hardware at sub-stations.

Feeders already segregated by the utilities shall not be eligible to be covered under this scheme. However, the feeders segregated by virtual means could be considered for undertaking physical separation under the scheme.

ii. Strengthening of sub-transmission and distribution system

- (i) Creation of new sub stations along with associated 66 KV / 33 KV/ 22 KV/ 11 KV lines.
- (ii) Augmentation of existing sub-stations capacity by installation of higher capacity/additional power transformer along with associated equipment/ switchgear etc.
- (iii) Erection of HT lines for reorientation/re-alignment including augmentation of existing lines.

- (iv) Installation of new distribution transformers and augmentation of existing distribution transformers along with associated LT lines.
- (v) Installation of capacitors.
- (vi) Renovation and Modernization of existing sub-stations and lines.
- (vii) High Voltage Distribution System (HVDS).
- (viii) Aerial Bundled Cable for theft prone areas.

iii. Micro-grid and off-grid distribution network.

iv. Metering

The installation of meters at sub-stations, feeders, distribution transformers and consumers is important to ensure seamless accounting and auditing of energy at all levels in the distribution system. Accordingly, metering of all feeders and distribution transformers including metering at all input points to the utility shall be ensured under this scheme. The metering component under the scheme shall cover the following:

- (i) Installation of suitable static meters for feeders, distribution transformers and all categories of consumers for un-metered connections, replacement of faulty meters & electro-mechanical meters.
- (ii) Installation of Pillar Box for relocation of meters outside the premises of consumers including associated service cables and accessories

v. NOFN:

The scheme envisages connecting all 33 KV or 66 KV grid sub stations/ billing offices / Regional / Circle / Zonal offices of utilities by extending optic fiber network being established under NOFN.

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. for the NOFN programme in the state.

B. Works not eligible under the scheme

The following works/ items shall not be eligible for coverage under DDUGJY scheme:

- (i) Works already sanctioned under other schemes of Government of India (RGGVY, NEF, R-APDRP 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) Service lines to APL consumers.
- (iii) Under-ground cable works.
- (iv) Cost of land for sub-stations.
- (v) Civil works other than sub-stations.
- (vi) Compensation towards right of way.
- (vii) Distribution automation and IT applications.
- (viii) Office equipment / fixtures.
- (ix) Spares (other than mandatory spares).
- (x) Tools and Plants (T&P).
- (xi) Vehicles.
- (xii) AMR / AMI, Prepaid meters and Smart Meters.
- (xiii) Salaries and Establishment Expenditure.

4.0) General information of project area

- a) Name of Utility:
- b) No. of districts:
- c) Profile of utility

(i) General Information

Sl. No.	Particular	Information
1	Total Project Area (sq Km)	
2	Total Number of rural consumers	
3	Total Population of Project Area (as per 2011 census)	
4	Nodal Officer	
5	Energy Input (MU) in last FY	
6	AT&C loss in last FY	
7	HT/LT Ratio	

(ii) Power Supply Details

Sl. No.	Details of Substation		Details of Feeder			Peak Demand (MVA) met
	Name	Capacity & Voltage Ratio	Name	Loading %ge	Length	
1						
2						
3						

d) Project Area Details (District wise): Details of on-going GOI scheme like Old RGGVY, NEF, etc

S. No.	Name of District	On-going GOI scheme like Old RGGVY, NEF, etc
1		
2		
3		
4		

e) Details of consumers (category-wise)

Type of Consumer	Total Energy Consumed in preceding year	Revenue in Rs. Lakhs	No. of Metered consumer	No. of Unmetered consumer	Total No. of Metered + unmetered consumer
Domestic					
Agriculture					
Industrial					
Commercial					
Others					
Total					

f) Availability of average hours of supply to rural households in the project area:

g) Details of household electrification

Name of District	Total No of household	No. of Electrified household	No. of Un-Electrified household	No. of un-electrified household proposed under ongoing RGGVY	No. of Un-Electrified household proposed for electrification under the scheme	Balance Un-Electrified household (if any & reasons there of)
District A						
District B						

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Total						

h) Roadmap for providing access to 100% rural households:

Balance Electrified household	Un-	Year 1	Year 2	Year ____

i) Details of village electrification

Name of District	Total No of Villages	No. of Electrified Villages	No. of Un-Electrified Villages	No. of un-electrified villages proposed under ongoing RGGVY	No. of Un-Electrified villages proposed for electrification under the scheme	Balance Un-Electrified villages (if any & reasons there of)
DistrictA						
DistrictB						
Total						

j) Details of work covered (QUANTITY) under RGGVY (District wise)

District	Works	Xth Plan		XI plan		XII plan	
		Sanctioned	Executed	Sanctioned	Executed	Sanctioned	Executed
	HT line KM						
	Dist. Trans. (NO/KVA)						
	LT line						
	Substation NO /MVA)						
	Service connection to BPL in NO.						

k) Details of cost(in Rupees) covered under RGGVY (District wise)

District	Works	Xth Plan	XI plan	XII plan
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		Sanctioned	Executed	Sanctioned	Executed	Sanctioned	Executed
	HT line KM						
	Dist. Trans. (NO/KVA)						
	LT line						
	Substation NO /MVA)						
	Service connection to BPL in NO.						

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5.0) Details of existing infrastructure (District wise):

S. No.	Item	Unit	District A			District B
			Name of S/S: A	Capacity : ___ MVA		
1	33/11 KV or 66/11 KV SUB-STATION	MVA	Name of S/S: B	Capacity : ___ MVA		
			Name of S/S: C	Capacity : ___ MVA		
2	33 KV feeders	Km	Source S/S:(EHV)	Fed S/S (33/11 kV).....	Length:_____ km	
3	11 KV feeders	Km	Source S/S:	Voltage Regulation	Length:_____ km	
4	Distribution Transformer	KVA	No.	Total kVA.....		
5	LT Line :	Km				
6	Capacitor Bank	MVAR & No.				
7	Aerial Bunched Cables	Km				
8	Metering- Feeder	Nos	Total	Metered:	Un metered:	



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9	Metering -DT	Nos	Total	Metered:	Un metered:	
10	Metering -Consumer	Nos	Total	Metered:	Un metered:	

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6.0) Cost data/ schedule of rates –Latest cost schedule may be attached

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7.0) Proposed infrastructure

Utility wise details of proposed infrastructure in following format (with district wise break up). The following are the Broad items and the utilities may include/ exclude the items as per their priority

S.No	Item	Unit	Unit Rate	Total Amount in Rs. lakhs	Objective of work (1, 2 or 3)#
<u>A. Feeder Separation</u>					
1	33 KV Feeder	Kms			
2	11 KV Feeder	Kms			
3	LT Line	Kms			
4	Distribution Transformer	MVA/No			
	Total				
<u>B. Strengthening of Sub-Transmission and Distribution Network</u>					
1	33/11 KV or 66/11 KV SS :	MVA			
	New substation				
	Additional Transformer				

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	Augmentation Enhancement				
2	Brief Scope of R&M works in existing 33/11 KV or 66/11 KV substations (details of Substations & works to be provided in DPR)				
3	33 KV feeders	Km			
	New				
	Augmentation				
4	New 11 KV feeders-	Km			
	New				
	Augmentation				
5	Distribution Transformer- New	MVA/No			
6	Distribution Transformer- R&M	Nos.			
7	LT Line	Km			

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		New			
		Augmentation			
8	Capacitor Bank	MVAR			
9	Aerial Bunched Cables	Km			
	Total				
C. Metering					
1	Feeder	Nos			
2	Distribution Transformer	Nos			
3	Consumer	Nos			
	Total				
	Grand Total				

Note: Objectives:

- 1) **24x7 power supply for non-agricultural consumers and adequate power supply for agricultural consumers,**
- 2) **reduction of AT&C losses as per trajectory (discom-wise) finalized by the Ministry of Power in consultation with States and**
- 3) **providing access to all rural households.**

8.0) Objective based cost segregation:

SNo.	Objective	Part cost of the project attributing to this objective (Rs. in lakhs)
1	<i>24x7 power supply for non-agricultural consumers and adequate power supply for agricultural consumers,</i>	
2	<i>Reduction of AT&C losses as per trajectory (discom-wise) finalized by the Ministry of Power in consultation with States and</i>	
3	<i>Providing access to all rural households.</i>	
	<u>TOTAL</u>	

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