

Before
UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No. 35 of 2023

In the Matter of:

Application seeking approval of the Commission for the investment on the project "REVAMPED DISTRIBUTION SECTOR SCHEME" of Ministry of Power, Govt. of India in Uttarakhand to improve the quality, reliability and affordability of power supply to consumers through a financially sustainable and operationally efficient Distribution Sector by Reducing the AT&C losses to 12-15% and ACS-ARR gap to zero by 2024-25. Prepaid Smart Metering, Distribution System Strengthening/Modernization Works and other works as per scheme guidelines will also be covered under this scheme.

And

In the Matter of:

Managing Director,
Uttarakhand Power Corporation Ltd.,
Victoria Cross Vijeyta Gabar Singh Bhawan,
Kanwali Road, Dehradun.

...Petitioner

Coram

Shri D.P. Gairola	Member (Law) /Chairman (I/c)
Shri M.K. Jain	Member (Technical)

Date of Order: October 19, 2023

ORDER

This Order relates to the Petition filed by Uttarakhand Power Corporation Limited (hereinafter referred to as "UPCL" or "the Petitioner" or "the licensee") seeking approval of the Commission for the investment on the project "Revamped Distribution Sector Scheme (RDSS)" of Ministry of Power, Govt. of India in Uttarakhand to improve the quality, reliability and affordability of power supply to consumers through a financially sustainable and operationally efficient Distribution Sector by Reducing the AT&C losses to 12-15% and ACS-ARR gap to zero by 2024-25. Prepaid Smart Metering, Distribution System Strengthening/Modernization Works and other works as per scheme guidelines are also be covered under this scheme.

Background

2. The Petitioner vide its letter No. 2544/UPCL/Comm/RM-6/MD dated **25.05.2023** submitted its Petition for investment approval under the provisions of the Clause 11 of Distribution and Retail Supply Licence and Clause 40 of UERC (Conduct of Business) Regulations, 2014.

3. The Petitioner has filed its Petition under following legal Provisions:

“

1. **Specific Legal Provision under which Petition is being filed:**

That present petition is filed under the following provisions:

- (i) *Hon'ble UERC has issued a Distribution and Retail Supply License to the applicant on 20th June, 2003, the clause 11 of the said license stipulates that the licensee shall make an application to the Hon'ble Commission for obtaining prior approval of the Commission for schemes involving major investments as per procedure which the Commission may specify from time to time. Here, major investment means any planned investment in or acquisition of distribution facilities, the cost of which, when aggregated with all other investments or acquisitions (if any) forming part of the same overall transaction equals or exceeds Rs. 250.00 lacs.*

...”

4. The Petitioner under the facts of the case has submitted that:

“... ”

A(i) *The Ministry of Power, Govt. of India notified the Revamped Distribution Sector Scheme: A Reforms-Based and Results-Linked Scheme RDSS vide notification F. No. 20/9/2019-IPDS, Government of India, Ministry of Power, Shram Shakti Bhavan, Rafi Marg, New Delhi, dated 20.07.2021. Consequent upon the notification nodal agency, M/s Rural Electrification Corporation (REC), issued the Operational Guidelines for RDSS on 29.07.2021 and modifications thereof based upon the feedback of stakeholders on 18.11.2021, 03.01.2022, 31.03.2022 and 05.07.2022. Power Finance Corporation Limited (PFC) has been designated by Gol as the Nodal Agency for Uttarakhand State under this scheme.*

A(ii) *The objectives of the scheme are:*

- To improve the quality, reliability and affordability of power supply to consumers through a financially sustainable and operationally efficient Distribution Sector.*
- Reduce the AT&C losses to pan-India levels of 12-15% by 2024-25.*
- Reduce ACS-ARR gap to zero by 2024-25.*

The state-wise targets for each year will depend on their current levels of AT&C Losses and ACS-ARR gap.

- A(iii) *The guidelines & orders issued by Ministry of Power, Govt. of India highlighting the features of the scheme. A latest available operational guideline with modifications of 5 July, 2022 also contains the notification of the Scheme.*
- A(iv) *UPCL appointed M/s PFC Consulting Limited (PFCCL) in adherence to clause no. 7.2 of Gol guidelines of RDSS for preparation of Action Plan & DPR vide NOA 1559/C(C&P-I)/ dated 07.10.2021.*
- A(v) *UPCL Distribution Reform Committee (DRC) constituted by Govt. of Uttarakhand in adherence to clause no. 7.4 of Gol guidelines of RDSS vide OM No. 1554/1(2)/2021/05-33/2021 dated 21.10.2021.*
- A(vi) *Action Plan in adherence to clause no. 3.1, 3.1.5 and 3.1.6 of Gol guidelines of RDSS was put up before the Hon'ble State Cabinet on dated 05.01.2022. The Action Plan & DPR was duly ratified by the DRC on 03.01.2022 as per provision of the guidelines.*
- A(vii) *Consequently, the Action Plan & DPR (in adherence to clause no. 3.2 of Gol guidelines of RDSS) was put up before Monitoring Committee of Ministry of Power in an online meeting dated 10.01.2022.*
- A(viii) *Notification of Award for appointment of PMA was awarded to M/s Medhaj Techno Concept Pvt. Limited in adherence to clause no. 2.5 and 3.2.4 of Gol guidelines of RDSS vide NOA No. 505/C(C&P-I)/36/2021-2022 dated 07.04.2022.*
- A(ix) *Approval of Hon'ble Cabinet was received vide OM No. 827/I(2)/2022-05-33/2021 dated 08.07.2022.*
- A(x) *Accordingly, formal sanction of Smart Metering and Loss Reduction works was received vide OM no. 02:10:RDSS:2021:I:UPCL/077867 dated 18.07.2022.*
- ...
- A(xi) *The Acceptance letter of financial assistance to UPCL for implementation of projects under RDSS Scheme of Govt. of Uttarakhand was to nodal agency M/s PFC, New Delhi on dated 08.09.2022.*
- A(xii) *The Tripartite Agreement in adherence to sanction letter of RDSS has been signed among Government of India, Government of Uttarakhand and Uttarakhand Power Corporation Limited dated 08.09.2022.*
- A(xii) *In pursuance to the Ministry of Power, Gol Memorandum No. F.No. 42/17/2011-RE[206787], dated: 16.09.2021 (appendix-IV), the District Electricity Committees has been constituted at the Uttarakhand Government level to monitor the projects under the scheme vide OM No.-1106/I(2)/2022-05-33/2021 dated 13.09.2022.*
- A(xiv) *The program is divided into two parts i.e., Part-A and Part-B.*

Part A is further divided into two parts i.e., Smart prepaid metering and Distribution Infrastructure Works;

➤ **Part A I - Smart Prepaid Metering**

Under this part, Prepaid Smart metering for consumers, and System metering at Feeder and Distribution Transformer level with communicating feature along with associated

Advanced Metering Infrastructure (AMI) will be done in TOTEX mode through PPP, to facilitate reduction of Distribution losses and enable automatic measurement of energy flows and energy accounting as well as auditing

➤ **Part A II - Distribution Infrastructure and Modernization Works**

Under this part, works like Loss reduction works, System strengthening works and modernization works will be done in all over Uttarakhand. The works covered under this part are as follows:

- *Replacement of conductors, which are old/frayed.*
- *Additional HT lines to improve reliability and quality of supply.*
- *Segregation of agricultural feeders.*
- *Provision of Arial Bunched Cables (ABC) in high loss areas.*
- *High Voltage Distribution System (HVDS) in High loss areas.*
- *Supervisory control and data acquisition (SCADA) in all urban areas and DMS in 100 Urban centers above the population of 2.75 lacs. as per urban census 2011.*
- *Works like new feeders, Capacitors, etc for loss reduction.*
- *IT/OT enablement works.*
- *Distribution works for system strengthening.*

➤ **Part- B** - focuses on the softer parts up-gradation of human skills; process improvements; Nodal Agency fee, enabling components of MoP (communication plan, publicity, consumer survey, consumer awareness and other associated measures such as third-party evaluation etc), augmentation of Smart Grid Knowledge Centre including AI, training and capacity building for personnel involved in execution of the Scheme at field level, awards and recognitions etc. (100% GBS)

➤ **Scheme outlay & Funding Pattern (Pan-India):**

The estimated outlay for the scheme is Rs 3,03,758 crore with an estimated grant from Central Government of Rs 97,631 crore. The funding pattern is as below:

S. N.	Item Description	GBS % (Max)
1	<i>Prepaid Smart metering solution including at consumer, DT, and feeder level including integration of existing infrastructure</i>	<i>15 % / 22.5 % as the case may be (Limited up to Rs.900 or Rs.1350 respectively per meter for Consumer metering) #</i>
2	<i>Other costs including encumbrance free standardized billing modules for all states, data management, data analytics, and support to implementation etc.</i>	<i>100%</i>
3	<i>Distribution Infrastructure works including SCADA, DMS, AB cables, feeder segregation etc.</i>	<i>60% or 90% as the case may be</i>
4	<i>Part-B</i>	<i>100%</i>

A provision for additional incentive over and above this has been made, for Prepaid Smart Meters installed within targeted timelines of first phase mission i.e., December 2023

➤ *All North Eastern States including Sikkim and States/Union Territories of Jammu & Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Andaman & Nicobar Islands, and Lakshadweep are categorized as Special Category States and will be eligible for grant,*

of 90% the approved cost of Distribution infrastructure works and approved cost of PMA and 22.5 % of the approved cost of metering including the operational cost, provided that it is not more than Rs. 1350 per meter for consumer metering only.

- For consumer metering, feeder and DT metering to be carried out in TOTEX mode, it is expected that the DISCOM will be able to finance balance cost other than grant, due to enhanced revenue as a result of improvement in billing and collection due to prepaid metering. This component is self-financing. State Government/DISCOM may also provide budgetary support in TOTEX mode. Since the implementation of the metering scheme is proposed through PPP on TOTEX mode, the DISCOM will not have to pay upfront for all the capital expenditure.

Further, with regard to Results Evaluation Framework, the Petitioner in its Petition has submitted that:-

➤ **Results Evaluation Framework**

“As part of the action plan of the State, a Results Evaluation Framework would be formulated incorporating result parameters and trajectories. The Results Evaluation Framework would have two components (i) pre-qualifying criteria; and (ii) Evaluation Matrix.

The sanction of DPR for Modernisation & System Augmentation and release of grant for both loss reduction works (other than the advance for DPR for Loss Reduction) and for the Modernisation & System Augmentation works will be based on the DISCOM meeting the pre-qualifying criteria and achieving the specified marks in the Evaluation Matrix.

It is clarified that pre-qualification conditions and Evaluation Matrix will not be considered for approval of the Action Plan or sanction of DPR for Loss Reduction in first year i.e. FY 2021-22 and the DPR for metering.

...

2-Evaluation Matrix:

DISCOMs meeting the pre qualification criteria shall be assessed on an Evaluation Matrix, agreed as part of Action Plan, comprising of four basic categories as below:

Sr. N.	Item Description	GBS % (Max)
1	Financial Sustainability	60
2	Operational	20
3	Infrastructure Works	10
4	Policy & Structural Reforms, Capacity Building and IT / OT Enablement	10
Total		100

...

- For qualifying in the Evaluation Matrix, a DISCOM needs to score a minimum of 60 marks.
- An illustrative Evaluation Matrix is given below. Evaluation Matrix may be modified, if required, to include a smaller number of parameters and to exclude those included in

the pre-qualifying criteria to avoid duplication or considering the specific requirement of the DISCOM and/or to make the Evaluation Matrix simple.

S No	Result Parameters	Weigh tage	Unit of Measure ment	Base Yea r	Evaluation of Cumulative Improvement from Base Year up to Year under evaluation				
				(Val ues)	Max. Marks	Tar get	Achiev ement	Sco re	
A.	Financial Sustainability	60							
1	ACS-ARR gap		Rs./kWh		25				
2	AT&C Loss - Increase in Billing and Collection Efficiency - Reduction in theft/line losses		%		25				
3	Outstanding/Overdue Subsidy Payment by State Government		Rs. Crore		15				
4	Outstanding/Overdue Government Dues		No. of days receivables		10				
5	Progress in putting Govt. Offices on prepaid meters		%		10				
6	No. of Creditor Days (including payment to Gencos for supply of power)		No. of days payable		5				
7	No. of Debtor Days		No. of days receivables		5				
8	Unliquidated Regulatory Assets		Rs. Crore		5				
Sub Total (A)					Max. Marks			Sco re	
Weighted Score (A) = (Weightage x Score)/Maximum Marks									
B	Operational- Outcomes of Infrastructure works	20							
1	Hours of supply (Rural)		Avg. Hours/Day		20				
2	Hours of supply (Urban)		Avg. Hours/Day		20				
3	Accurate Energy Accounts		%		20				
4	Reliability of power supply - SAIFI (System Average Interruption Frequency Index)		Nos./year		20				
5	Data availability in the National Feeder Monitoring System / NPP		%		20				
Sub Total (B)					Max. Marks			Sco re	
Weighted Score (B) = (Weightage x Score)/Maximum Marks									
C.	Infrastructure Works	10							
1	Metering								
i	Consumer Metering		Nos.		10				
ii	DT Metering		Nos.		20				
iii	Feeder Metering		Nos.		20				
2	Feeder Separation- % of total Agriculture feeders separated (Feeders with Agricultural load of >=30% of total load of feeder)		%		10				

3	Replacement of existing LT overhead bare conductor lines with AB/UG cable		Ckm		10				
4	% of Consumers with Prepaid Smart Meters (other than Govt. Deptt.)		%		15				
5	Availability of Feeders in NFMS		%		15				
Sub Total (C)					Max. Marks			Score	
Weighted Score (C) = (Weightage x Score)/Maximum Marks									
D.	Policy & Structural Reforms, Capacity building and IT/OT enablement								
1	SCADA	10	No. of Towns		15				
2	ERP Implementation		Yes/No		10				
3	Training of DISCOM Officials		Man-days		5				
4	Corporate Governance (Recommendations complied)		%		10				
5	Tariff Reforms (MYT/ToD/Cross Subsidy)				15				
6	Subsidy Delivery Mechanism/DBT				15				
7	Consumer rights and grievance redressal				15				
8	Adoption of PPP mode				15				
Sub Total (D)					Max. Marks			Score	
Weighted Score (D) = (Weightage x Score)/Maximum Marks									
Sum of Weighted Score (A+B+C+D)									

Note: In order to qualify for receipt of grant under the scheme, the total weighted score should be 60 or more.

Further, the Petitioner with regard to the details of works proposed to be executed under the RDSS scheme has submitted the following:-

A(xv) The various sub-heads of approved DPR of **Rs. 3,767 Cr** is divided are as follows:

Part No.	Sl. No.	Particular	Unit	Quantity	Project Cost (Rs. In Cr)
Part A I	1	Smart Prepaid Metering			
	(i)	Installation of Modems for Feeder communication @ Rs. 42,000 per Node	No.	1,686	7
	(ii)	Smart Metering for DT meters @ Rs.23,000 per Node	No.	38,016	87
	(iii)-a	Smart Prepaid Metering for selected Consumers @ Rs.6,000 per node	No.	15,77,098	946
	(iii)-b	Smart Metering for LT CT Connected Consumers @ Rs.6,000 per node	No.	7,107	4
		Total Metering			1,045
Part A II - Distribution Infrastructure Works					
A II- (i)	1.	Replacement of LT Conductor with AB	Km		

		<i>Cable in theft prone areas</i>		4,837	306
	2.	<i>New Feeders (for overloaded feeders)</i>			
	(i)	33 KV	CKm	9	5
	(ii)	11 KV	CKm	425	90
	3.	<i>Replacement of Old/frayed Cable</i>			
	(i)	33 KV	CKm	342	41
	(ii)	11 KV	CKm	2,622	99
	(iii)	LT Conductor	CKm	1,218	45
	4.	<i>Replacement of Old/frayed AB Cable</i>	Km	1,983	111
	5.	<i>Replacement of old aged VCBs</i>	No.	553	27
	6.	<i>Providing of interlinking 11 KV lines</i>	CKm	263	31
	7.	<i>Providing of Alternate 33KV supply</i>			
	(i)	Conductor	CKm	182	37
	(ii)	UG Cable	Km	77	44
	(iii)	33 KV Bay Ext.	No.	18	4
	8.	<i>Segregation of agriculture feeders</i>	No.	10	56
	9.	<i>Replacement of aged DTR structures</i>	No.	469	7
	10.	<i>Replacement of damaged poles</i>	No.		
	(i)	33 kV	No.	716	2
	(ii)	11 kV	No.	3,029	6
	(iii)	LT	No.	4,612	6
	(iv)	DP Str.	No.	414	5
	(v)	4 Pole Str.	No.	57	1
	11.	33 KV Covered Conductor	CKm	400	128
	12.	11 KV Covered Conductor	CKm	951	212
	13.	IT/OT works	LS	-	164
		Sub Total Loss reduction works			1,426
A II- (ii)	1.	<i>Underground cabling</i>			
	(i)	<i>Haldwani</i>			268
	(ii)	<i>Nainital</i>			40
	2.	<i>UG Cable (for other district)</i>			
	(i)	UG 33 KV	Km	108	69
	(ii)	UG 11 KV	Km	142	63
	(iii)	UG LT	Km	69	29
	(iv)	UG Service	Km	158	3
	(v)	CSS 1000	No.	15	8
	(vi)	CSS 630	No.	18	9
	(vii)	RMU 33	No.	9	4
	(viii)	RMU 11-3 Way	No.	56	6
	3.	<i>New Substation</i>	No.	24	168
	4.	<i>Augmentation & Addl. PTRs</i>	No.	71	64
	5.	<i>New DTR</i>	No.	396	58
	6.	<i>Providing of mobile DTRs</i>	No.	102	10
	7.	<i>Capacity enhancement of DTRs</i>	No.	1,809	87
	8.	SCADA#	Towns	73	334
	9.	<i>Replacement of SCADA enabled VCBs</i>	No.	483	27
		Sub Total Modernisation Works			1,248
		Total Distribution Infrastructure Works			26,75

Part A III – Project Monitoring				
	1.	Fee for Project Management Agency	LS	
	(i)	PMA- Smart Metering works	LS	6
	(ii)	PMA-Loss Reduction works	LS	21
	(iii)	PMA- Modernisation Works*	LS	19
Sub Total				47
Sub Total Part A				3,767
Part B- Training & Capacity Building				
	1.	Training, Capacity Building, and other enabling & Supporting Activities.	LS	-
Grand total (Part A+ B)				3,767

➤ **District-wise cost Estimates:**

SN	Name of District	Smart Metering (Part A-I)	Distribution Infrastructure Works (Part A-II)					PMA	Training	Total Part A (I+II) + PMA
			Loss Reduction (Excl. IT/OT)	IT/OT Works	Modernisation	SCADA	Sub Total (Part A-II)			
1	Dehradun	311	223		57		280	47	-	591
2	Tehri Garhwal	15	49		22		70			85
3	Uttarkashi	6	39		29		68			74
4	Pauri Garhwal	20	55		96		151			171
3	Chamoli	3	44		17		60			63
6	Rudraprayag	0	30	164	14	334	44			44
7	Haridwar	265	262		108		371			636
8	Nainital	123	108		339		446			569
9	Almora	14	62		13		75			89
10	Bageshwar	4	15		10		24			28
11	Udham Singh Nagar	266	289		196		485			751
12	Pithoragarh	10	60		3		62			72
13	Champawat	8	28		11		39			47
	Grant Total	1,045	1,262	164	914	334	2,675	47	-	3,767

A(xvi) Nodal Agency, M/s PFC in the light MoP Letter no. 10/06/2022 and letter no. PFC:UPCL:079834 dated 06.12.2022, wherein it is emphasized that “it is prudent of have 100% automated energy accounting/auditing under RDSS and 100% of metering of DTs & feeders to be ensured under RDSS”, UPCL in consultation with MoP/PFC included the scope of 100% DT and feeder metering as per guidelines of the Scheme which raised the Project Cost of Smart Metering to Rs. 1099 Cr against earlier sanctioned amount of Rs. 1045 Cr”

5. The Petitioner under the Ground for Relief has submitted that:

“That the implementation of RDSS scheme Part-A in Uttarakhand shall result in the reduction of AT&C losses and ACC-ARR gap through installing prepaid smart meters for

proposed consumers along with associated AMI, communicable meters for DTs & Feeders, ICT including Artificial Intelligence (AI), Machine Learning (ML), etc. based solutions for power Sector and a unified billing and collection system. Distribution infrastructure works as required for strengthening and modernizing the system as well as measures for loss reduction. The infrastructure strengthening works will include separation of Agriculture feeders to enable implementation of the KUSUM scheme, Aerial Bunch cables and HVDS for loss reduction, replacement of HT/LT lines as require, construction of new/upgradation of substations, SCADA and DMS system etc. Each DISCOM/State will draw up the scheme according to its requirement with the end objective of reducing losses and ensuring 24 x 7 supply. The works mentioned above are the pre-requisites for the successful implementation of the scheme and to realize its desired objectives. It is also to submit that Ministry of Power Govt. of India has issued an advisory on issues relating to Smart Metering Roll Out under Revamped Distribution sector Scheme vide F.No 14/02/2021/-UR&SI-II -Part(1)-(E-258136) dated 13.09.2022.

A: Levying of penalties regarding higher than connected load.

B: Arrear management post conversion to prepaid

Regarding above advisory of MoP GoI, Hon'b1e URECs kind direction is required as well requested.

Further, keeping in view of the thrust of MoP for finalizing tenders of Prepaid Smart Metering works & Loss Reduction Works, the tenders for the same has already been floated. As informed by nodal agency, M/s PFC, budget sanction for modernization works to nodal agency is still awaited therefore, investment approval for works sanctioned until now i.e. for Smart Pre-paid Metering and Loss Reduction Works is being filed for approval before the Hon'b1e Commission."

6. The Petitioner vide its letter no. 2545/UPCL/com/RMC-6/D(P) dated 25.05.2023 enclosed a certified true copy of Board Resolution passed by BoD in 105th BoD meeting held on 30.08.2022 wherein approval was accorded for implementation of centrally sponsored, Revamped Distribution Sector Scheme (RDSS) in UPCL.
7. The Commission vide letter dated 30.05.2023 directed UPCL for making Power Point Presentation in the matter before the Commission on 07.06.2023 at 11:30 AM which was postponed to 19.06.2023 at 11:30 hrs by the Commission through its letter dated 01.06.2023. Managing Director, UPCL alongwith concerned officers reported to the Commission's office on the scheduled date and made the Power Point Presentation before the Commission in the matter.
8. On examination of the Petition & DPR and observations made during the aforesaid presentation held on 19.06.2023, certain deficiencies/infirmities were identified and accordingly, the Commission vide its letter No. 330 dated 22.06.2023 directed the Petitioner to submit/furnish its compliance latest by

25.07.2023. In response to the aforesaid letter, UPCL vide its letter dated 25.07.2023 and dated 03.08.2023 submitted its point-wise reply to the deficiencies/infirmities as detailed below:-

UPCL's submission vide letter dated 25.07.2023

“

1. UPCL has to ensure/confirm that no duplicity of works exists in its instant Petition and no work already covered/executed under previous GoI/GoU schemes has been again claimed in the instant Petition.

Reply:-It is to confirm that there is no duplicity of work which exists in its instant Petition for investment approval of RDSS and no work already covered/executed under previous GoI/GoU schemes has been again claimed in the instant Petition. Due care has already been taken while preparing the DPR of the scheme. Further, while finalizing the DPR of modernization component in coming future, sufficient care will again be taken in this regard.

2. UPCL is required to furnish DPR of IT/OT works and DPR for Smart Meters of all types namely Smart Meters for DT/feeder, Smart Pre-paid Meters, Smart Meters for LT CT connected consumers and Smart Meters for HT/EHT consumers.

Reply :- 2(i) Duly Signed DPR of IT/OT works is annexed herewith as Annexure-1. 2(ii) The proposed quantity of circle-wise prepaid smart meters, DT meters and feeder meters has already been submitted with the petition. Further, the queries related to processes and implementation as sought by Hon'ble Commission during the presentation is well defined in the SBD for engagement of AMISP.

3. UPCL has not furnished cost benefit analysis for the RDSS project. UPCL is required to furnish separate cost benefit analysis for Part-A I 'Smart Prepaid Metering' and Part-A II (I) 'Loss reduction works' in hard as well as soft copy.

Reply :- to be submitted.

4. The target set for RDSS scheme is 12-15% AT&C losses. In this regard, UPCL is required to furnish division-wise baseline distribution losses, collection efficiency and AT&C losses of UPCL for FY 2020-21 along with target set for these parameters after completion of the RDSS scheme and subsequent 5 years.

Reply:- to be submitted

5. UPCL is required to furnish the prospective commercial & financial impact, in case UPCL is unable to achieve the target AT&C of 12-15% and ACS-ARR gap to zero by FY 2024-25 as per RDSS targets.

Reply :- The targets of various parameters under Result Evaluation Matrix has already been available with the Hon'ble Commission with the instant petition in the action plan document of RDSS.

Clause 4.11 of the RDSS guidelines provide for the prequalifying criteria which must be mandatorily met by DISCOM before it is evaluated on the basis of Result

Evaluation Matrix. Further, clause 4.12 provides for Evaluation Matrix. Clause 4.12.1 states that, DISCOMs meeting the prequalification criteria shall be assessed on an Evaluation Matrix, agreed as part of Action Plan, comprising of four basic categories as below:

Sr. No.	Category	Weightage
1.	<i>Financial Sustainability</i>	60
2.	<i>Operational</i>	20
3.	<i>Infrastructure Works</i>	10
4.	<i>Policy & Structural Reforms, Capacity Building and IT/OT Enablement</i>	10
	Total	100

Clause 4.12.6 states that, for qualifying in Evaluation Matrix, a DISCOM needs to score a minimum of 60 marks.

ACS-ARR gap and AT&C losses are the subset of financial sustainability category for which weightage is 60.

The process through which the release of grant for metering and distribution infrastructure works will be disbursed is thoroughly explained under clause 5.2 of the RDSS guidelines.

It is to submit before the Hon'ble Commission that the evaluation of UPCL for FY 2021-22 has already been done in which the UPCL declared qualified in all the 8 PQ criteria along with 88.82 marks in Result Evaluation Matrix out of 100 marks. The relevant slides of the presentation made by Nodal Agency, M/s PFC before the Monitoring Committee of MoP is annexed herewith as Annexure-3. The official communication regarding this qualification from Nodal Agency has already been annexed on page no 341 of the petition submitted.

6. *UPCL is required to furnish the Gantt chart with work-wise schedule of the works to be executed under RDSS project including details of tendering, procurement, site mobilization, material supply, erection, testing & commissioning etc.*

Reply- *The tender for loss reduction and AMISP works under RDSS is in process. It is humbly submitted that workable circle wise Gantt charts for metering and distribution infrastructure works will be available with UPCL once the works will be awarded. The same will be made available to Hon'ble Commission once prepared accordingly.*

7. *UPCL is required to furnish timelines for project completion so that any adverse impact of conversion of Grant into loan/non-approval of grant for the project is not passed on to consumers of the State.*

Reply- *As per guidelines of RDSS, UPCL has taken the same timeline and will push hard to comply with the project timelines as specified in the guidelines.*

Timelines for metering (Smart metering) works is tabulated below:-

Timelines as per guidelines	Phase I		Phase II	
Consumer Meters	Dec-23	845,058	Mar-25	739,147
DT Meters	Mar-23	19,818	Dec-23	18,198
Feeder Meters	Dec-22	1,686	-	-

Further, for loss reduction works the guidelines envisages the sunset date for the RDSS scheme is 31.03.2026 and UPCL will comply the same.

8. UPCL is required to furnish the documentary evidence for source of balance funding including that from GoU/UPCL internal resources/loan etc. necessary to fund the balance CAPEX and OPEX requirements besides GoI grant.

Further, UPCL is required to confirm whether recovery of expenses incurred on implementation of Smart Metering component of RDSS project would be from Annual Revenue Requirement or from individual consumer. Moreover, UPCL is required to furnish the operational period of TOTEX mode.

Reply – 8(i) to be submitted.

8(ii)- Clause 5.1.5 of the RDSS guidelines comments on the financing of smart metering component which states that, For consumer metering, feeder and DT metering to be carried out in TOTEX mode, it is expected that the DISCOM will be able to finance balance cost other than grant, due to enhanced revenue as a result of improvement in billing and collection due to prepaid metering. This component is self-financing. State Government/DISCOM may also provide Budgetary support in TOTEX mode. Since the implementation of the metering scheme is proposed through PPP on TOTEX mode, the DISCOM will not have to pay upfront for all the capital expenditure.

Keeping in view of the essence of aforesaid clause, while preparing the scheme, considering the grant of 22.5%, capital infusion of 2.5% was proposed from UPCL through internal resources and 75% of the capital infusion from AMISP under TOTEX mode.

As per the provision laid down in SBD version 4 O&M period for AMISP is 93 months with installation period of 27 months, totaling to the entire period of 120 months.

9. UPCL has executed several works of DT metering/feeder metering/consumer metering under various centrally funded schemes. UPCL is required to furnish details of Meters installed in various centrally funded schemes as per below mentioned format:-

Details of Meter

Project Name	No. of DT Meters	No. of Feeder Meters			No. of Consumer Meters			
		0.4 kV	11 kV	33 kV	0.23 kV	0.4 kV	11 kV	33 kV
APDRP								
R-APDRP	9865		546					

Project Name	No. of DT Meters	No. of Feeder Meters			No. of Consumer Meters			
		0.4 kV	11 kV	33 kV	0.23 kV	0.4 kV	11 kV	33 kV
RGGUY	12498				202954			
DDUGJY	3818	44			21925			
IPDS	1124		77					
Saubhagya	NA	NA	NA	NA	156611			

10. UPCL is required to furnish the details of functionality of Smart Meters for DT/feeders, Smart Prepaid Meters for Consumers viz-a-viz the existing Meters installed in UPCL's network as per below mentioned format:-

Reply: The desired information is tabulated below:-

Details of existing meters vs proposed meters			
Existing Meters		Proposed Meters under RDSS	
Description	Functionality	Description	Functionality/USP's/Benefits
Existing DT meters	Modem Communication	Smart Meters for DT	Bidirectional RF/Cellular Communication
Existing Feeder meters	Modem Communication	Smart Meters for Feeder	Bidirectional Cellular Communication
Existing prepaid meters	-	Smart Prepaid meters for consumer	Bidirectional RF/Cellular Communication
Existing meters installed at LTCT connected consumers		Smart Meters for LTCT connected consumers	-
Existing meters installed at HT/EHT consumers		Smart Meters for HT/EHT consumers	-

1. Benefits for Utility -

- Eliminating manual meter reading will reduce the meter exceptions which in turn results into improved consumer satisfaction.
- Enhanced monitoring as meter data is available on demand.
- Making it possible to use resources/manpower more efficiently.
- Time & money saving of RC-DC staff.
- Availability of near real-time data useful for balancing electric loads.
- Avoiding the capital expense of building new power plants.
- Helping to optimize income with existing resources.
- It is helpful in such critical cases where natural disasters/emergency occurred. (i.e. COVID 19, rainfall, curfew etc)

2. Benefit for Consumers :-

- Offering more detailed feedback on energy use.

- (b) *Enabling them to adjust their habits to lower electricity bills.*
- (c) *Efficient awareness to minimize wastage of energy.*
- (d) *Reducing blackouts and system-wide electric failures.*

3. Benefit to Environment :-

- (a) *Preventing the need for new power plants that would produce pollution.*
 - (b) *Reducing carbon emissions from existing power plants.*
11. *UPCL is required to confirm that whether Smart Prepaid Meters proposed to be installed at consumer premises shall also have Post Paid features functionality and can a consumers switch amongst Prepaid/Postpaid features.*

Reply:-

Yes, proposed smart meters at consumer premise will have both prepaid/post paid functionality but it is to submit before the Hon'ble Commission that as per communication received from MoP the grant will only be disbursed if the implementation of smart metering will be done on prepaid mode only. The communication of MoP/Nodal agency in this regard is annexed as Annexure-4.

Clause no 2.3.2 of the guidelines also states that, "Funding under this Part will be available only if the DISCOM agrees to the operation of smart meters in prepayment mode for consumers, and in accordance with the uniform approach indicated by the Central Government, with implementation in TOTEX mode".

12. *UPCL is required to furnish the details of Meter failure rate in percentage for Smart Meters and confirm that what percentage of total Meters has been kept as spare in the proposed RDSS project. Further, UPCL is required to furnish that what percentage of Meters have been considered for the prospective connections in the RDSS project and confirm whether the grant would be available for the Smart metering of prospective consumers also.*

Reply – (1) *As per clause 7.3 sub clause no 7.3.3 of Request For Proposal it is mentioned as "Spares inventory: As part of project implementation plan, the AMISP shall detail the spares inventory that shall be maintained for the AMI Project. These spares shall be used as and when required by the AMISP for the project and no separate charges shall be payable. The AMISP shall decide the items and components to be maintained as spare."*

13. *UPCL is required to confirm the communication system for the proposed Meters under RDSS project as per below mentioned format:-*

Further, UPCL has to confirm whether any survey for communication system adequacy has been conducted by it for RDSS project.

Reply:- *The desired information is tabulated below:-*

<i>Division-wise details of communication system for Smart Metering under RDSS</i>	
<i>Description</i>	<i>Type of communication system</i>
<i>Smart Meters for DT</i>	<i>RF/Cellular</i>

Division-wise details of communication system for Smart Metering under RDSS	
Description	Type of communication system
Smart Meters for feeder	RF/Cellular
Smart Pre-paid Meters for consumers	RF/Cellular
Smart Meters for LT CT connected consumers	RF/Cellular
Smart Meters for HT/EHT consumers	RF/Cellular

It is to submit before the Hon'ble Commission that UPCL has not done any survey for communication system however, the scheme is a DBFOOT model with SLAs linked for AMISP and the survey is in the scope of AMISP which has been mentioned in below clause of SBD :

RFP Clause 2.2.1, General Requirements :

The AMISP shall design / hire reliable, interference free & robust communication network. It shall be effective for providing communication in terrain, topology & the consumer density of the project site. During designing, suitable consideration shall be kept for future expansion. Before designing the communication network, the AMISP shall do the site survey and would provide the most efficient communication infrastructure. The entire infrastructure & associated civil works required for installation & commissioning of equipment/devices such as DCUs, repeaters, routers & access points etc. shall be in the scope of AMISP.

Further, the technical specification for meters in SBD provides for the selection of communication technology should be as per site conditions and as per the design requirement of AMISP to meet performance as per agreed service level agreements (SLAs). As per provisions AMISP will raise the invoice for monthly payment along with the SLA performance report.

Therefore, the responsibility of successful communication rests with AMISP and any performance related issues with communication will negatively affects the SLAs and payment will be affected accordingly.

14. UPCL is required to confirm whether Smart prepaid meters shall be installed at HT/EHT consumers or not. Further UPCL is required to furnish details of existing Meters and proposed Meters installation under RDSS project:-

Reply :- The desired information is tabulated below:-

Description	Details of Existing Meters				Details of Proposed Meters under RDSS Project				
	No. of existing Meters as on 01.05.2023	Type of communication system in existing Meters			No. of proposed Meters under RDSS project	Type of Meter	Type of communication system in existing Meters		
		GSM Modem	GPRS Modem	RF		Smart Prepaid/Smart Meter	GSM Modem	GPRS Modem	RF
Feeder Metering	1950	NA	1733	NA	2602	Smart Meter		√	√
DT Metering	27305	NA	0	NA	59212	Smart Meter		√	√
LT consumers (load upto 25 kW)	2597513	NA	4361	NA	1577098	Prepaid Meters		√	√

Description	Details of Existing Meters				Details of Proposed Meters under RDSS Project				
	No. of existing Meters as on 01.05.2023	Type of communication system in existing Meters			No. of proposed Meters under RDSS project	Type of Meter	Type of communication system in existing Meters		
		GSM Modem	GPRS Modem	RF		Smart Prepaid/Smart Meter	GSM Modem	GPRS Modem	RF
LT Consumers (load above 25 kW and upto 75 kW)	9540	NA		NA	7107	Prepaid Meters		√	√
HT Consumers	3646	NA	3053	NA	3334	Smart Meter		√	√
(11kV & 33 kV)									
EHT Consumers (132 kV and above)	15	NA	9		-				
Total	2639972				1649353				

15. UPCL is required to confirm that no issue related to interoperability of hardware/software/Metering System/Modems/Communication system would arise post execution of RDSS project. If yes, UPCL is required to highlight the specific issues in this regard.

Reply- Clause 2 of the SBD stipulates for Supply, installation, integration, testing and commissioning of smart meters. Clause 2.1 of SBD stipulates that, “the AMISP shall supply, install, integrate and commission smart meters of different types, the estimated number of which is given in the Bill of Material, in the Project Area throughout the Contract Period. The Utility shall provide details of new locations, consumer premises, Distribution transformers, feeders, boundary locations, etc. in the Project Area, where meters are to be installed from time to time. Single phase whole current Smart Meters shall comply with technical specifications as provided in Annexure – A, three phase whole current Single Smart Meters shall comply with technical specifications as provided in Annexure – B, three phase LT-CT operated smart meters shall comply with technical specifications as provided in Annexure – C and three phase CT/PT operated smart meter shall comply with technical specifications as provided in Annexure – D. In case additional meter specification/ requirements (over and above BIS standards), Utility shall provide the same in Annexure M of this section. The AMISP has to furnish valid BIS certification before the supply of meters. After meter installation, details of consumer connections, such as consumer identification no., meter ID, its hardware & software configuration, name plate details, make, type i.e., 1 Phase or 3 Phase shall be updated in the system. The information would also be updated on the consumer portal and app for providing information to consumers. Reference, the Smart Meter communication, it is envisaged that plug and play type communication modules shall be deployed in the smart meter, for any given communication technology. These modules shall be field-deployable, with corresponding communication interface modules being used in the DCU/Gateway or BTS of wide area network in accordance with the details provided in Annexure F. The General requirements for common pluggable module for smart meters as per Annexure F envisage a universal interface and a particular size irrespective of the choice of communication technology that defines the dimensions of the communication slot as well as physical 162 Section 5. Financial Proposal –Forms

RFP for Appointment of Advanced Metering Infrastructure (AMI) Service Provider for Smart Prepaid Metering in Uttarakhand State, India on DBFOOT basis RFP/ Tender No CCP-I/58/2022-2023 Page | 16162 placement and location of connectors. The same shall be adopted in all smart meters mandatorily for deployment w.e.f. 1 Jan 2023 or one year after BIS certification, whichever is later, and BIS certification taken accordingly as per IS 16444 for the same. The Network Interface Card (NIC) / Communication Module should be integrated with at least 3 (three) makes of meters in India to enable the respective meters to seamlessly integrate with proposed HES and/or MDM thus enabling interoperability of the system. In future, it would be AMISP's responsibility to integrate new meter in consultation with Utility or facilitate integration of other application as per the approach paper submitted under the Project Implementation Plan".

It is further to inform that Nodal agency M/s REC has floated Request for empanelment on dated 12.03.2022 and had installed test bench. All AMISPs had given live demonstration of AMISP solutions on that test bench itself. Based upon the successful demonstration AMISPs were empanelled by M/s REC. Interoperability is also one of the part of successful live demonstration for empanelment of AMISPs.

16. UPCL is required to furnish the details of electricity police stations to be established by State Govt.

Reply:- As per RDSS guide line 3.1.5.4 , point no viii it is mentioned that State Government has to set up electricity police stations in line with the provisions of the Electricity Act, 2003 out of its own resources. UPCL is in the process with State Government for setting up of dedicated police stations for theft of electricity in the districts of U S Nagar and Haridwar.

17. UPCL is required to confirm regarding the modalities for replacement of defective Meters under RDSS project and confirm under what conditions consumer will have to pay for cost of replacement of Meter.

Reply- The smart metering project under RDSS scheme is in DBFOOT model and linked with SLA performed by AMISP, as Operation and Maintenance of all installed smart meters will be in scope of AMISP therefore all defective meters shall be replaced by AMISP under the light of prevailing regulations. Further, it is humbly submitted before the Hon'ble Commission that in the light of Annexure-18 of the petition read with this question and other guidelines from MoP/Nodal agency, suitable amendments in the requisite regulations is necessary in consultation with the Hon'ble Commission.

18. UPCL is required to confirm regarding the metering arrangement for prosumers under RDSS project and confirm whether the Smart Prepaid Meters shall have import and export registers. Further, UPCL is required to confirm how energy adjustment would be done for prosumers i.e. hourly/daily/monthly basis.

Reply- Yes, Smart meters have import and export registers which has been demonstrated by the bidders during the proof of concept as per SBD. Net metering is also a part of Technical requirement of smart meter specified by Standard Bidding Document

of AMISP with clause no 13, Section 6, Project Requirement. The energy adjustment of the prosumers will be done in the time frame as specified in the relevant prevailing regulation.

19. UPCL is required to confirm regarding utilization of Meters removed from consumer premise under RDSS project and confirm regarding the de-capitalization of Meters in its books of accounts. Further, UPCL is required to confirm regarding any buy-back scheme under the RDSS project.

Reply-As UPCL has considered prepaid smart metering for 16.49 lac out of Approx 26 Lac of consumer base, UPCL will utilize Ok/Good/Healthy removed meters in the remaining areas for replacement/NSC.

Further, REC has issued an EOI on dated 04.07.2022 for disposal of replaced electricity meters. Any further development by Nodal Agency in this regard will bring to the kind notice of the Hon'ble Commission accordingly.

20. UPCL is required to confirm whether existing storage space for Meters in stores is adequate to accommodate the removed/spare approx. 16 lakh Meters under RDSS project.

Reply:- Yes, there is adequate space available in UPCL stores/test divisions/subdivisions for storage of such meters.

21. UPCL is required to confirm whether existing MTB/Labs are adequate/capable for testing all types of Smart Meters to be installed under RDSS project. If no, UPCL is required to furnish details of the same and Action Plan in this regard.

Reply:- As Smart metering project is in DBFOOT model, testing of meters is in the scope of AMISP, however UPCL MTB/Labs are adequate/capable for testing of all types of Smart Meters which is already performed by UPCL during live demonstration by technically qualified bidders. The details of the same as mentioned in the relevant RFP is given below:

Clause no 9.1, Test and inspections are in the complete purview of the AMISP and its sub-vendors. It shall be ensured that there are no conflicts in roles played between AMISP personnel carrying out tests / inspections, and those assigned responsibilities of quality assurance (QA) and quality control (QC). The QA/QC organization of the AMISP shall be an independent administrative and functional structure reporting via its manager to the AMISP's top management. The QA/QC manager(s) shall have the authority within the delegated areas of responsibility to resolve all matters pertaining to quality when actual quality deviates from that stated in the Work Statement. The personnel performing QA/QC functions shall have well-defined responsibility, authority, and organizational freedom to identify and evaluate quality problems and to initiate, recommend, or provide solutions during all phases of the Contract. The QA/QC Manager designate for the project shall be the custodian of all inspection and test records/certificates. QA/QC Manager either directly or through its authorized representative shall be responsible for all witness testing, approval of test records and in general, management of the QA/QC program of the project. The responsibility for

inspections and tests is borne by the Inspections and Tests Manager. This team is responsible for creating the various inspection and test procedures and under the general supervision of the QA/QC Manager, conducts the tests.

Clause no 7.5

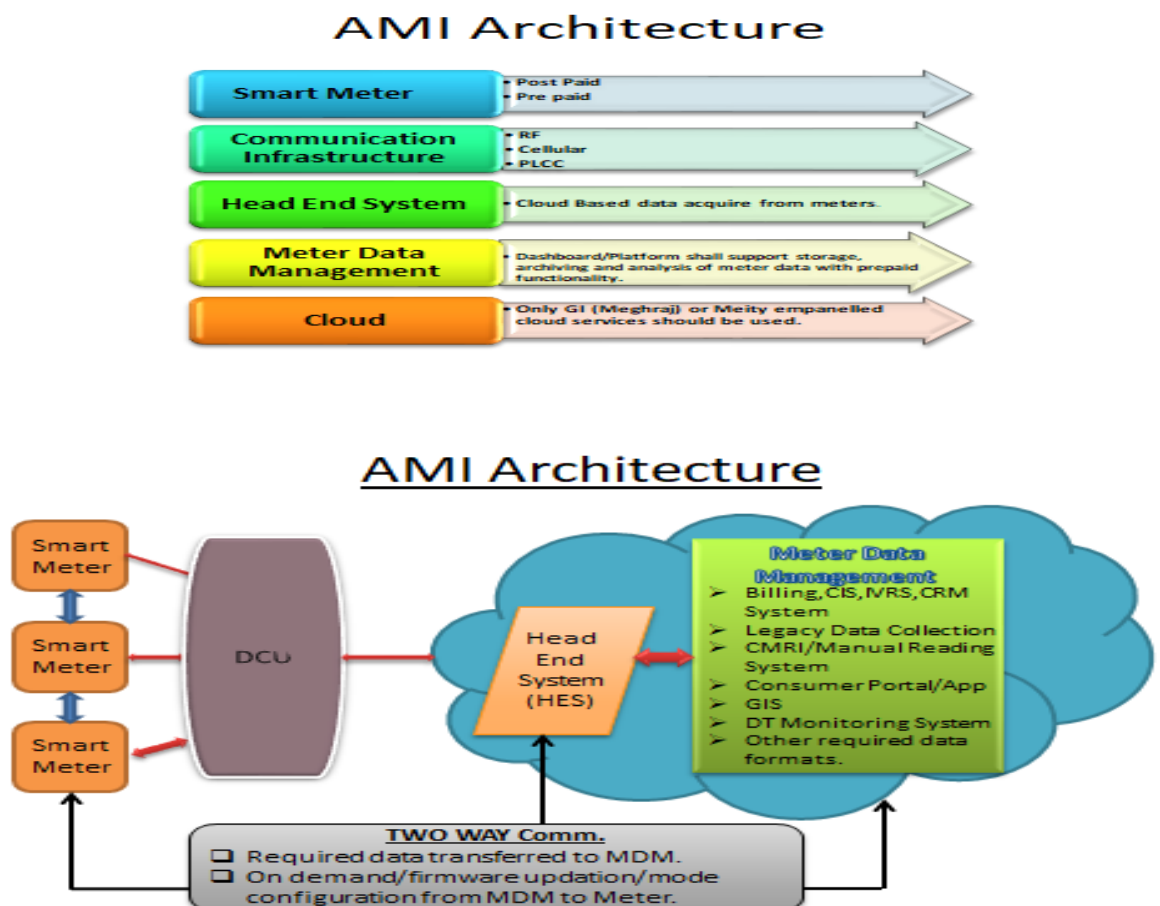
Meter Accuracy Tests In case a Consumer complains about meter accuracy post operational go-live and same isn't reasonably resolved through past consumption trend, Transformer Energy Audit, Check Meter (by Utility), etc. AMISP will be obliged to facilitate the meter testing. In this regard, AMISP shall handover the meter for testing to CPRI Lab/ Utility Lab/ NABL accredited Lab and install a temporary meter till the period of removal and replacing meter, if found inaccurate or reinstall if found accurate.

Clause 9.2.5.2 subclause d (ii)

In addition to the above, the utility reserves the right to carry out accuracy tests, in line with the above guidelines, in their own Meter testing Laboratory for each lot. The sample size for such test would be [5%] of the smart meters of each lot.

22. UPCL is required to furnish a block diagram/architectural drawing of communication system/meter data flow encompassing meter, modem, repeaters, data concentrators, Servers, DMS, SCADA, data storage, data recovery server etc.

Reply:- The architectural drawing of communication system/meter data flow is mentioned underneath :-



23. UPCL is required to furnish a writeup on procedure of recharging of prepaid meters with details of hardwares and softwares involved in the aforesaid process. Further, UPCL is required to clarify regarding the contingency provisions for recharging of Prepaid Meters during conditions of server down/updation/holidays/communication failure etc. Furthermore, UPCL is required to confirm whether provision of maintaining negative balance exists in Smart Meters. If yes, please specify the threshold limit for the same.

Reply:-Consumer logs into portal & Mobile app through UI and redirected to payment gateway by filling consumer ID. Once consumer fills consumer ID, it has to choose payment method (Net banking/credit card/wallet etc). After that consumer is required to fill the amount through the choose payment method and payment is proceeded by payment gateway. Once payment is done then consumer will get the payment acknowledgement. After payment is done by the consumer, prepaid engine will calculate credit balance for prepaid consumer & update the prepaid meter through HES to meter. After proceeding, consumer will get the balance notification in prepaid app through email/SMS Gateway.

As per clause 2.4.6 (d) of standard bidding document Prepaid consumers shall be provided with facility to recharge their account by logging on to the consumer portal and app as per Clause 2.5 of this Section.

- i. The user interface shall be integrated with the present online payment gateway of the utility. Additional payment gateways shall be implemented if required.
- ii. The payment gateways shall facilitate payments through on-line banking, credit cards and payment wallets. A pre-paid mobile application functionality shall be provided as a recharge option for android OS and iOS. The consumer portal and app shall be enabled by consumers to recharge as well as to view the earlier recharge history, existing balance, daily usage etc.

As per clause no 2.2 sub-clause 2.2.1 of standard bidding document non-availability of network Situation may arise when there is a sudden network issue. To tackle such situation there should be a provision of Hand Held Device which is capable of communicating meter with available ports. Leverages like connection, disconnection, recharge is to be allowed by this device and shall be decided as per UPCL's requirement.

It is also to inform that Annexure-I of SBD stipulates for conditions/protocols for auto disconnection stipulates that the auto disconnection shall not be allowed during gazetted holidays/ national holidays and during night time.

24. UPCL is required to furnish the status of tendering for works proposed under RDSS project.

Reply :- The various tendering status is as mentioned below:-

<i>Status of tendering of works</i>			
	AMISP	LR	RT-DAS
<i>Date of Release of NIT</i>	22.12.2022	22.12.2022	06.03.2022
<i>Date of Uploading of BoQ and Tender Documents on portal</i>	16.01.2023	18.01.2023 & 19.01.2023	16.03.2023
<i>Date of Pre-bid Meeting</i>	01.02.2023	30.01.2023	23.03.2023
<i>Uploading of Pre bid Queries Reply/ Addendum/ Corrigendum</i>	28.03.2023	16.04.2023	22.05.2023
<i>Date of Technical Bid Opening</i>	12.05.2023	03.05.2023	26.04.2023 & After retendering 13.06.2023
<i>Date of Financial Bid Opening</i>	22.06.2023		

For IT works, draft SBD has been prepared and the same is submitted to Nodal agency for approval. The NIT will be floated as soon as the nod of Nodal agency will be received for the same.

25. *UPCL has mentioned that the total expenditure against Prepaid Smart Metering & System Metering is Rs. 1099.84 Cr However, specific approval has been sought against Rs. 1045 Cr in its Petition. UPCL is required to clarify in this regard.*

Reply- *Please refer attached Annexure-5A, i.e MOM dated 14th December 2022 of GOI. It was stated by UPCL that there is a gap between system meter proposed in RDSS and meter to be installed as per system requirement. The same shall be included in tender. Hence the tender value has increased.*

Also refer attached Annexure-5B, i.e MOM dated 5th December 2022 it was directed by MoP to include all DT meters also in line with 4th monitoring committee.

UPCL is already in the process of approval of this enhanced cost from Monitoring Committee/MoP.

26. *UPCL in 'Grounds of Relief' has mentioned that infrastructure strengthening works will include separation of agriculture feeders to enable implementation of the KUSUM scheme. UPCL is required to review the same w.r.t. recent central Government Notification for non-implementation of KUSUM Yojna in area with low ground water level. Further, UPCL is required to furnish details of agricultural feeders to be taken up under KUSUM Yojna.*

Reply:- *As per clause no 2.4 and clause no 2.4.2 and annexure -IV of guideline agricultural feeders are to be segregated and subsequently they are to be solarized under KUSUM Yojna leading to cheap / nominally priced day time power for agriculture irrigation. Details of feeder are mentioned below.*

List of 11 kV agricultural feeder under RDSS UPCL							
Sl. No.	District	Zone	Circle	Division	Name of emanating Substaion	Name of the feeder	Qty(Km)
1	Haridwar	Haridwar	Roorkee	Urban	Bharampur	Mehwad	16.00
2	Haridwar	Haridwar	Roorkee	Urban	Kaliyar	Mukarabpur	4.10
3	Haridwar	Haridwar	Roorkee	Roorkee/ Bhagwanpur	Dadajalalpur	Sikroda 2	30.00
4	Haridwar	Haridwar	Roorkee	Bhagwanpur	Buggawala	Banderjood 2	21.00
5	Haridwar	Haridwar	Roorkee	Bhagwanpur	Bhagwanpur	Iqbalpur 2	9.70
6	Haridwar	Haridwar	Roorkee	Bhagwanpur	Chudiyala	Nanheda AB	24.80
7	Haridwar	Haridwar	Roorkee	Bhagwanpur	Chudiyala	Dadli AB	29.20
8	Haridwar	Haridwar	Roorkee	Bhagwanpur	Chudiyala	Tejjupur AB	34.90
9	Udham Singh Nagar	Udham Singh Nagar	Rudrapur	Sitarganj	Nanakmatta	Jarasu Pratappur	98.05
10	Udham Singh Nagar	Udham Singh Nagar	Rudrapur	Sitarganj	Nanakmatta	Balkhera	89.05
						Total	356.80

27. UPCL in its Petition under guidelines of RDSS at point no. 3.2.2.5 has mentioned that 'In areas which do not have communication network, installation of prepayment meters, may be taken up'. In this regard, UPCL is required to confirm regarding the mechanism of recharging would be done in such cases.

Reply:- UPCL envisaged prepaid smart metering works of 16.49 lac consumers out of approx 26 lac consumer base in the areas where suitable communication facilities are available which is mainly concentrated in plain areas of district Dehradun, Haridwar, U S Nagar and Nainital. As far as hilly region is concerned the work of prepaid smart metering is taken under the town boundaries of RAPDRP/IPDS towns where adequate communication facilities are available.

28. UPCL is required to furnish details of expenditure expected to be incurred in the project which are not covered under RDSS scheme as per point no. 4.1 of guidelines of RDSS project (version-5 July, 2022).

Reply:- The major and significant component in this regard is portion of SGST which contributes to 9% of the overall cost which approximately Rs. 300 Cr It is to inform to the Hon'ble Commission that provision of Rs. 115 Cr for this SGST component has already been made by GoU in the budget of FY 2023-24.

The second major cost in this regard will be road cutting charges wherever under grounding works has been proposed which is estimated to the tune of Cr which will be borne through internal resources as per scheme guidelines. Further, all other costs as mentioned in clause 4.1 will be borne by UPCL itself as per scheme guidelines.

29. UPCL is required to confirm regarding the mode of implementation as per point no. 4.4.1 of guidelines of RDSS project (version-5 July, 2022).

Reply:- The mode of implementation as per clause no 4.4.1 of Metering

These projects shall be implemented in TOTEX mode (Total expenditure includes both capital and operational expenditure) with the following options:

- (i) Installation and commissioning of meters and cost recoveries in equated monthly instalments by PPP or implementation partner (or service provider) with no upfront payment by DISCOM.
- (ii) Some initial payment shall be made to the service provider upon installation and commissioning of the meters, with the rest of the payments made on equated monthly / quarterly instalments over the operational period.

In the light of above point no 2 Grant component (i.e. Rs. 1350 per consumer) is proposed as initial payment to AMISP upon installation and commissioning of meters.

30. UPCL is required to confirm regarding inclusion of insurance cost in TOTEX mode of metering.

Reply :- As per clause no 15.3 of RFP and sub clause no 15.3.1 “The Goods supplied under the Contract shall be fully insured by the AMISP against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery”.

As per sub clause no 15.3.2 “The AMISP shall furnish to the Utility copies of certificates and policies of the Insurances as soon as they are affected and renewed by or on behalf of the AMISP from time to time in terms of Article 15”.

31. As per point no. 4.5 of guidelines of RDSS project (version-5 July, 2022), NSGM/REC shall issue standard bidding documents. UPCL is required to furnish copy of standard bidding documents approved by the Nodal Agency clearly highlighting the changes, if any proposed by UPCL in it.

Reply:- Standard SBD of AMISP (as per Annexure-2), Distribution works (Loss Reduction, RTDAS) is annexed in soft copy in the attached CD drive.

32. UPCL is required to provide soft copy of its Petition in word format. Further, all the estimates and calculation sheets are to be provided in excel format.

Reply :- All the estimates and calculation sheets are available in the attached CD drive.”

UPCL’s submission vide letter dated 03.08.2023

- “3. UPCL has not furnished cost benefit analysis for the RDSS project. UPCL is required to furnish separate cost benefit analysis for Part-A I ‘Smart Prepaid Metering’ and Part-A II (I) ‘Loss reduction works’ in hard as well as soft copy.

Reply :- As per calculation, the cost benefit analysis is mentioned underneath:

For Loss Reduction: -

- a. Total Loss Reduction Works : Rs.1,426 Cr
- b. Loss Reduction Works not considered for Cost Benefit Analysis: Rs.343 Cr
- c. Loss Reduction Works considered for Cost Benefit Analysis : Rs.1,083 Cr
- d. Estimated Annual Savings:
 - i. MUs : 559 MUs

ii. Amount

: Rs.197 Cr

It is pertinent to mention that above savings are calculated on 50% loading of assets. With increase in load there savings will be increased accordingly. Further, the capital investment for future growth of at least 5 to 10 years will also be catered through this investment.

For Smart Metering:

For Smart Metering component Clause 5.1.5 of the guidelines states that, "For consumer metering, feeder and DT metering to be carried out in TOTEX mode, it is expected that the DISCOM will be able to finance balance cost other than grant, due to enhanced revenue as a result of improvement in billing and collection due to prepaid metering. This component is self-financing. State Government/DISCOM may also provide Budgetary support in TOTEX mode. Since the implementation of the metering scheme is proposed through PPP on TOTEX mode, the DISCOM will not have to pay upfront for all the capital expenditure". Hence, the cost benefit analysis for smart metering cannot be calculated upfront. The same would be measured post completion of the smart metering program and would be submitted to the Hon'ble Commission.

4. **The target set for RDSS scheme is 12-15% AT&C losses. In this regard, UPCL is required to furnish division-wise baseline distribution losses, collection efficiency and AT&C losses of UPCL for FY 2020-21 along with target set for these parameters after completion of the RDSS scheme and subsequent 5 years.**

Reply:- As per agreed Result Evaluation Matrix the targeted AT&C loss levels is for whole of Discom instead of division wise which is 17.20%, 16.10%, 14.99% and 13.96% for FY 2021-22, FY 2022-23, FY 2023-24 and FY 2024-25 respectively against the baseline AT&C loss figures of 17.79% for FY 2020-21. Against these targets the actual achievement for FY 2021-22 is 15.75% and FY 2022-23 is 15.49% (Tentative).

However, as desired by the Hon'ble Commission Division-wise baseline distribution losses, collection efficiency and AT&C losses of UPCL for FY 2020-21 alongwith actual achievement for FY 2021-22, tentative achievement for FY 2022-23 and targeted figures for FY 2023-24 are underneath :-

Baseline Year (FY 20-21)						(FY 21-22)			(FY 22-23)			(FY 23-24)		
S. No.	Name of Circle/Zone	Name of Division	Collection Efficiency %	Distribution Loss (Technical only) %	AT&C Loss %	Collection Efficiency %	Distribution Loss (Technical only) %	AT&C Loss %	Collection Efficiency %	Distribution Loss (Technical only) %	AT&C Loss %	Collection Efficiency %	Distribution Loss (Technical only) %	AT&C Loss %
1	Dehradun (R)	Raipur	95.98	10.58	14.17	105.44	9.80	4.89	102.27	9.63	7.58	100.00	8.19	8.08
2		Vikasnagar	80.88	14.46	30.82	87.45	10.34	21.59	103.97	17.76	14.49	100.00	15.10	14.90
3		Rishikesh	97.39	6.82	9.25	96.11	9.01	12.54	101.99	9.85	8.05	100.00	8.37	8.27
4		Doiwala	95.89	7.5	11.3	98.12	8.59	10.31	100.56	6.87	6.35	100.00	5.84	5.76
5		Mohanpur	96.98	8.57	11.33	99.20	7.32	8.06	101.48	7.05	5.68	100.00	5.99	5.91
6	Dehradun (N)	Dehradun (N)	97.51	4.51	6.89	103.48	5.00	1.69	95.40	5.49	9.84	96.00	4.67	8.26

Baseline Year (FY 20-21)						(FY 21-22)			(FY 22-23)			(FY 23-24)		
S. No.	Name of Circle/Zone	Name of Division	Collection Efficiency %	Distribution Loss (Technical only) %	AT&C Loss %	Collection Efficiency %	Distribution Loss (Technical only) %	AT&C Loss %	Collection Efficiency %	Distribution Loss (Technical only) %	AT&C Loss %	Collection Efficiency %	Distribution Loss (Technical only) %	AT&C Loss %
7	Tehri	Dehradun (S)	98.7	6.53	7.74	100.91	5.77	4.92	102.03	5.52	3.60	100.00	4.70	4.64
8		Dehradun (C)	91.03	4.7	13.25	105.79	5.42	-0.05	91.42	5.09	13.23	93.00	4.32	11.10
9		Tehri	88.94	21.76	30.41	96.24	24.34	27.19	98.67	21.48	22.52	99.00	18.26	18.90
10		Uttarkashi	90.28	29.64	36.48	99.08	34.03	34.64	93.70	30.12	34.52	95.00	25.61	28.97
11		Barkot	86.69	34.18	42.94	83.61	28.29	40.04	87.54	27.31	36.37	90.00	23.22	30.53
12	Srinagar	Srinagar	79.96	10.63	28.54	98.24	10.68	12.25	101.38	8.15	6.89	100.00	6.93	6.84
13		Pauri	78.02	13.46	32.48	93.07	17.37	23.10	89.62	18.17	26.66	92.00	15.45	22.38
14		Kotdwar	94.16	4.5	10.07	98.70	4.24	5.49	98.30	3.24	4.88	99.00	2.76	4.10
15	Karnprayag	Narayanbag arh	103.85	38.22	35.84	92.40	26.60	32.18	97.15	39.64	41.35	98.00	33.70	34.71
16		Gairsain	101.28	24.93	23.96	95.02	32.54	35.90	95.66	24.79	28.05	97.00	21.08	23.54
17		Gopeshwar	104.54	20.86	17.27	91.14	19.58	26.71	105.15	26.10	22.30	100.00	22.19	21.91
18		Rudraprayag	74.69	13.86	35.66	88.51	19.02	28.33	118.31	22.71	8.55	100.00	19.31	19.06
19	Roorkee	Roorkee (U)	98.23	33.3	34.48	94.17	34.83	38.63	92.79	33.66	38.44	95.00	28.62	32.26
20		Roorkee (R)	102.8	34.74	32.91	96.59	31.21	33.56	96.58	31.09	33.45	98.00	26.44	28.08
21		Bhagwanpur	97.1	14.87	17.34	98.91	13.92	14.86	96.25	15.50	18.67	97.00	13.18	15.67
22		Ramnagar (Roorkee)	97.14	25.33	27.46	100.75	27.34	26.79	96.78	30.46	32.70	98.00	25.90	27.44
23	Haridwar	Haridwar (U)	88.13	5.01	16.29	93.98	4.05	9.83	103.47	5.72	2.45	100.00	4.87	4.80
24		Haridwar (R)	100.79	4.22	3.47	101.01	0.32	-0.69	101.23	0.81	-0.41	100.00	0.69	0.68
25		Laksar	95.74	34.01	36.83	94.52	27.99	31.94	83.87	28.07	39.67	88.00	23.87	33.30
26		Jwalapur	94.35	16.73	21.44	94.60	23.19	27.34	95.96	21.40	24.57	97.00	18.19	20.62
27	Haldwani	Haldwani (U)	87.59	18.19	28.34	91.71	17.94	24.74	93.99	17.92	22.85	95.00	15.23	19.18
28		Nainital	82.96	7.08	22.91	102.45	16.56	14.52	99.60	12.56	12.91	100.00	10.68	10.84
29		Ramnagar	96.48	13.7	16.74	102.20	14.02	12.13	99.65	14.01	14.31	100.00	11.92	12.01
30		Haldwani (R)	94.22	11.14	16.28	106.15	12.18	6.78	101.30	11.50	10.35	100.00	9.78	9.65
31	Kashipur	Kashipur	95.35	7.17	11.48	96.38	6.81	10.18	97.60	7.00	9.24	98.00	5.95	7.75
32		Bajpur	96.95	11.95	14.64	95.67	14.94	18.62	96.08	13.50	16.90	97.00	11.48	14.18
33		Jasipur	100.17	11.85	11.7	97.05	13.37	15.93	100.40	9.24	8.88	100.00	7.86	7.75
34	Ranikhet	Almora	89.32	13.28	22.54	103.53	15.09	12.09	104.69	13.07	8.99	100.00	11.11	10.97
35		Bageshwar	93.4	29.33	33.99	92.10	29.31	34.89	98.25	28.05	29.31	99.00	23.85	24.60
36		Ranikhet	88.1	15.72	25.75	99.06	16.70	17.48	104.56	18.71	15.00	100.00	15.91	15.70
37		Bhikiyasain	65.52	22.59	49.28	90.38	20.39	28.05	98.78	19.79	20.77	99.00	16.82	17.43
38	Rudrapur	Rudrapur-I	94.19	4.85	10.38	99.00	7.01	7.94	101.16	8.06	6.99	100.00	6.85	6.76
39		Rudrapur-II	96.35	34.45	36.84	94.19	34.88	38.67	92.45	30.76	35.99	95.00	26.16	30.21
40		Sitarganj	99.35	9.72	10.3	95.44	8.50	12.67	101.86	14.83	13.24	100.00	12.61	12.45
41		Khatima	97.22	12.59	15.02	98.79	14.43	15.47	105.94	19.82	15.05	100.00	16.85	16.63
42	Pithoragarh	Pithoragarh	92.49	19.42	25.47	104.84	25.00	21.36	102.88	22.24	20.01	100.00	18.91	18.61
43		Champawat	98.06	21.14	22.67	103.89	23.46	20.47	106.33	18.63	13.47	100.00	15.84	15.63
44		Dharchula	91.59	30.42	36.27	93.24	40.35	44.38	97.07	37.77	39.59	98.00	32.12	33.23

It is pertinent to mention that internal target of AT&C losses on which UPCL is focusing for FY 2023-24 is 13%.

8. ***UPCL is required to furnish the documentary evidence for source of balance funding including that from GoU/UPCL internal resources/loan etc. necessary to fund the balance CAPEX and OPEX requirements besides GoI grant.***

Further, UPCL is required to confirm whether recovery of expenses incurred on implementation of Smart Metering component of RDSS project would be from Annual Revenue Requirement or from individual consumer. Moreover, UPCL is required to furnish the operational period of TOTEX mode.

Reply – 8(i) *As a special category state UPCL is eligible for 90% of grant funding for Loss Reduction and Modernisation works subject to qualification as per Result Evaluation Framework of RDSS. For balance 10% of funds, UPCL proposed before the Distribution Reform Committee (DRC), of Govt. of Uttarakhand (GoU) that the IRR of the scheme would be better for implementation of works under the scheme if GoU will fund the balance 10% of the amount. The same is mentioned at S.No-4 of the MOM dated 05.01.2022 of the DRC, which is annexed as **Annexure-3** for your kind perusal."*

9. Further, on examination of the Petitioner's aforesaid reply dated 25.07.2023 & dated 03.08.2023, certain addition deficiencies were identified and accordingly the Commission vide its letter dated 22.08.2023 directed the Petitioner to submit/furnish its compliance latest by 05.09.2023. In compliance to the same, Petitioner vide its letter dated 08.09.2023 submitted its point-wise reply to the deficiencies as detailed below:

"

1. *With regard to UPCL's submission dated 25.07.2023 at point no. 2, UPCL is required to clarify whether O&M expenses including licence fees for the proposed ERP works under IT/OT works has been included in the estimates. If yes, please specify the amount of O&M expenses along with the number of years that has been considered for the same.*

Reply:- *On the matter, it is to apprise that O&M expenses and the Annual Technical Support (ATS) charges for the ERP Licenses to be procured under the RDSS program is not included in ERP Upgrade Project Cost and the same will be covered in UPCL's yearly proposal of Annual Revenue Requirement (ARR) being recurring revenue expenditure.*

2. *With regard to UPCL's submission dated 03.08.2023 at point no. 3, following deficiencies have been observed:*

- (i) *The loss reduction works amounting to Rs. 343.22 Cr has not been included in IRR calculation. UPCL is required to submit the reason for not considering aforesaid works in IRR calculation and cost benefit analysis.*

- (ii) UPCL in its submission against cost benefit analysis of 'New 33 kV overloaded feeder with Dog conductor to HTLS conductor' has assumed the load of 512 ampere on dog conductor, which seems to be erroneous. UPCL is required to check such anomalies/erroneous data in all sheets of cost benefit analysis and submit the corrected revised sheets.
- (iii) The payback period of many of the works mentioned in the cost benefit analysis sheet seems to be extremely high. In this regard, UPCL is required to check the cost benefit analysis of all those works whose payback period are more than 15 years and submit revised sheets. Further, incase no correction is required then UPCL is required to submit the reason and justification for need of such works whose payback periods are extremely high.

Reply:-(i) The details of work not included in cost benefit analysis amounting to Rs 343.22 Cr was provided as Annexure-1 with reply of dated 03.08.2023. In this regard it is to inform that out of this Rs 343.22 Cr, Rs 163.95 Cr is of IT/OT works. Further, other major components in this are; providing alternate 33 kV supply (Rs 85.50 Cr), interlinking of 11 kV feeders (Rs 30.85 Cr), replacement of old VCBs (Rs 27.42 Cr), replacement of damaged poles (Rs 19.79 Cr), 11 kV bay extension (Rs 8.59 Cr), replacement of old aged DTR structures (Rs 6.91 Cr) and 33 kV bay extension (Rs 0.21 Cr). These works are proposed under RDSS in order to improve the reliability of supply and strengthening of old aged infrastructure, hence the nature of these works are of operation & maintenance rather than capital works. Therefore, these works have been omitted while calculating the cost benefit analysis.

2 (ii) It is to submit that the overload conductor in the flagged case is ACSR Panther instead of ACSR Dog which is wrongly mentioned.

2 (iii) As per directions the revisited cost benefit analysis sheets are annexed as Annexure-1.

- 3. UPCL in its submission dated 25.07.2023 has not submitted the specific information desired against point no. 5. UPCL is required to furnish the prospective commercial & financial impact, in case UPCL is unable to achieve the RDSS targets i.e. AT&C of 12-15% and ACS-ARR Gap to zero.

Reply:- In the reply of 25.07.2023 it has already been informed that as per clause 4.12.6 states that, for qualifying in Evaluation Matrix, a DISCOM needs to score minimum of 60 marks and the process through which the release of grant for Metering and Distribution Infrastructure works will be disbursed is thoroughly explained under clause 5.2 of the RDSS guidelines. The details of clause 5.2 is enumerated below for the kind perusal:

"5.2 Release of grant for Metering and Distribution Infrastructure Works

5.2.1 Metering

5.2.1.1 Grant for metering works, will be due when a meter is successfully installed and commissioned, and essential services and data related to it are provided for a period of one month to the DISCOM. It will be essential that a consumer meter is recharged at least once, for the release of grant pertaining to it to become due. The

Nodal Agencies may decide as to what constitute essential services and data for system meters.

5.2.1.2 The DISCOM may submit claim for release of grant in a phased manner when grant becomes due against 5% of the total meters planned to be installed, or such number of meters or such period that the Nodal Agencies deem practical and convenient. After the first release, subsequent releases shall be subject to submission of utilization certificate of the previous releases.

5.2.1.3 It is clarified that grant shall not been given in advance for this component. Further it is also clarified that pre-qualification conditions and results evaluation matrix will not be applicable for release of grant for metering works.

5.2.2 Distribution Infrastructure Works 5.2.2.1 Phase I: After approval of the DPR for Loss Reduction, DISCOM will become eligible for release of 10% of the grant for Loss Reduction part of the project 26 as advance - 5% on sanction and further 5% on award of works.

5.2.2.2 Phase II: The DISCOM shall be evaluated in FY 2022-23 as per the Results Evaluation Framework of the Action Plan for FY 2021-22 and if it qualifies, then,

- It will become eligible for total release of 30% (including the advance 10%) of the grant component of the project cost of Loss Reduction part and
- It will become eligible for release of 30% of the grant component of the project cost of DPR for Modernization & System Augmentation – 10 % on sanction and 20% on award of works.
- However, the release of Phase-II funds for Loss Reduction and Modernisation will be subject to award of prepaid Smart Metering works to be covered in the first phase to be completed by December 2023, as per Clause 3.2.2.2.

5.2.2.3 Phase III: The DISCOM shall be evaluated in FY 2023-24 as per the Results Evaluation Framework of the Action Plan for the FY 2022-23, and if it qualifies, then it will become eligible for cumulative release of 60% (including the earlier release) of grant component of the project cost of DPRs.

5.2.2.4 Phase IV: The DISCOM shall be evaluated in FY 2024-25 as per the Results Evaluation Framework of the Action Plan for the FY 2023-24 and if it qualifies, then it will become eligible for cumulative release of 100% of the grant component of the project cost of DPRs. Out of the eligible 40%, 35% will be released on meeting the conditions prescribed in 5.3. and balance 5% will be released on submission of project completion report as per clause 4.8.1.

5.2.3 It is clarified that if a DISCOM achieves the targets as per Action Plan of any previous FY in a subsequent year, then it shall be eligible for release of grant pertaining to that FY. For example, DISCOM will be evaluated in FY 2022-23 as per the Results Evaluation Framework of the Action Plan for the FY 2021- 22 and if DISCOM does not achieve the targets of FY 2021-22 then it will not be eligible for release pertaining to FY 2021-22. Subsequently, DISCOM will be evaluated in FY 2023-24 as per the Results Evaluation Framework of the Action Plan for the FY 2021-22 and FY 2022-23 and if it achieves the targets specified for FY 2021-22 then it becomes eligible for release pertaining to FY 2021-22 and if it has also

achieved the targets for FY 2022-23 then it will be eligible for cumulative release/sanction pertaining to FY 2021-22 and FY 2022- 23.

5.2.4 If by the end of year 2025-26, a DISCOM is not eligible for release of any grant, the initial advance of 10% of the grant component of the cost of DPR for Loss Reduction will have to be refunded by the DISCOM.

5.2.5 The Monitoring Committee is empowered to recall the grant released to the DISCOMs at any stage of the scheme, in case the sanctioned works are left incomplete, or the assets could not be put to use, or funds are utilized for purposes other than those prescribed in the scheme/ as approved by the Monitoring Committee in accordance with the prescribed guidelines."

Accordingly, grants will be disbursed to the DISCOM based upon the evaluation criteria mentioned above and any failure in disbursement of grant will have to be passed on to UPCL subject to prudence check by Hon'ble Commission.

- 4. The timelines specified by UPCL for 'DT meters' & 'Feeder meters' in Phase-I at point no. 7 of its submission dated 25.07.2023 has already been exhausted. Further, the timelines specified for 'Consumer meters' in Phase-I is Dec-23. In this regard, UPCL is required to clarify how it would execute the project within the timeline specified by it in-line with RDSS guidelines for availing the additional benefits.*

Reply:- *Additional benefits as of now will only be available on completion of works as per the timelines specified in the RDSS guidelines. The tender for selection of AMISP is under negotiation process with L1 bidders. UPCL will try it's best to avail the additional benefits as far as it can under the stipulated guidelines.*

- 5. UPCL at point no. 8(i) of its submission dated 25.07.2023 has submitted that 10% share will be provided by GoU against loss reduction works. UPCL is required to submit the confirmation made by GoU in this regard. Further, UPCL is required to clarify whether 10% share (by GoU or by UPCL from its internal resources) will be infused as a loan or equity?*

Reply:- *GoU provided Rs 15 Cr as an equity and Rs 115 Cr against the SGST liability in the budget sanctioned for financial year 2023-24. The documentary proof in this regard is annexed as Annexure-2. As submitted before, as per MoM of Distribution Reforms Committee UPCL will try it's best to take 10% share as an equity from GoU. Any shortfall in the same will be bridged through loan from financial institutions after due diligence for the same.*

- 6. At point no. 8(ii), UPCL has submitted that 75% capital infusion from AMISP will be under TOTEX mode. In this regard, UPCL is required to submit the breakup of Metering works amounting to Rs. 1045 Cr into CAPEX and OPEX expenses along with the details of financing arrangement (grant, loan, equity) in CAPEX and OPEX. Further, UPCL is required to confirm regarding the source of funding of the total expenditure (CAPEX & OPEX separately) for Smart Metering under RDSS for the balance amount between the benchmark cost and cost arrived after tendering.*

Reply:- *The Operating Cost (i.e. the complete cost arrived after tendering) of the project will be considered by UPCL at the time of filing ARR in the light of Clause 5.2.16*

of SBD which states, "AMISP service charge along with Lumpsum payment per meter paid by the utility to the AMISP will be considered as an Operational Expenditure on Utility's account." and Clause 9(ix) of the SBD Guidance note, version 4 which states, "Accounting Process for AMISP Payment: a) Transaction Nature: Payment to the AMISP by the DISCOM shall be considered as on operational expenditure on DISCOM's account. b) Regulatory Treatment: DISCOM to consider AMISP payments (AMISP service Charge along with the lumpsum payment per meter) as operational expenditure while filing ARR and tariff review petition to the State ERC....."

7. UPCL in its submission dated 25.07.2023 at point no. 10, has not furnished any details of functionality/USPs/benefits for 'LT CT connected consumers' and 'HT/EHT consumers'. In this regard, UPCL is required to substantiate the need of replacing the existing Meters with proposed Meters when there is no difference between them as per UPCL's submission.

Reply:- The functionality for the LTCT connected consumers and HT/EHT consumers is Bidirectional RF/Cellular communication.

The performance of agency catering to AMR work at present is not satisfactory as the communication received per month is only to the tune of 50% against the tendered quantity of 8000 meters. Further, the agreement of agency will also expire in the month of Sep 2024.

Under RDSS, as the work of feeder, DT and consumer metering is under the scope of AMISP therefore in order to have a successful energy accounting works under the guidelines of RDSS it would be better that a single agency will cater to entire metering works. Hence, the scope of LTCT connected & HT/EHT consumers have also been included in the scope. Further, the smart meters for these consumers will also get the applicable grant as per RDSS guidelines for implementation.

8. With regard to UPCL's submission dated 25.07.2023 at point no. 12, UPCL w.r.t. availability of spare Smart Meter/Smart Pre-paid Meters is required to clarify the percentage of Smart Meter/Smart Pre-paid Meters that would be kept in spare under the RDSS scheme. Further, UPCL is required to clarify (a) Whether the release of new connections will also be covered through Smart Meter/Smart Pre-paid Meters or not? (b) Whether provision for the same has been kept in the instant Petition or not?

Reply:- (a) During and after the deployment of smart metering solution, the responsibility of O&M rests with the AMISP. Hence, it is the responsibility of the AMISP to provide required services in this regard. Therefore, in order to meet the defined SLAs AMISP will keep the requisite spare meters/accessories with them. It is further to mention that as per Standard Bidding Document clause no 27 sub clause 27.1, Utility reserves the right to increase or decrease the number of items under the AMISP Contract subject to the limit of -20% (twenty percent) up to +30% (thirty percent) of the existing number of items (as provided in Form 1 given in Section 5), covered under the AMISP Contract, without any change in the unit prices or other terms and conditions of the AMISP Contract and the Bid. Hence,

release of new connection will be covered through Smart Meter/Smart Prepaid Meters by AMISP.

(b) Yes, provision for the same has been kept in the instant petition based upon the reply of aforesaid (a).

9. UPCL at point no. 14 of its submission dated 25.07.2023 has submitted that the proposed Meters for LT consumers (load above 25 KW and upto 75 kW) would be 'Prepaid Meters', however, UPCL throughout the Petition has submitted the same as 'Smart Meters'. In this regard, UPCL is required to check the same and submit the correct information. Further, UPCL is required to confirm the Smart Prepaid Meter current capacity and confirm the load (in kW) upto which UPCL wishes to install such Pre-paid Meters.

Reply:- It was checked and confirmed that LT consumers (load above 25 KW and upto 75 KW) would be Smart Meters not in prepaid mode as it excluded with auto disconnection through MDM command. In our prior submission dated 25.07.2023 it was mentioned as "Prepaid meters" against LT Consumers (load above 25 kW and upto 75 kW) for which we want to inform that it is a typographical error.

Further, current capacity of LT consumers is -/5A with auxiliary CT. Current capacity of single phase whole current meter & three phase whole current meter is 10-60 A.

10. With regard to UPCL's submission dated 25.07.2023 at point no. 21, UPCL is required to confirm whether the scope of periodical testing of meters as specified in Regulation 5.1.3 (3) of UERC (The Electricity Supply Code, Release of New Connections and Related Matters) Regulations, 2020 have been included in the scope of AMISP or not?

Further, for defective meter cases, UPCL is required to confirm whether rates of Smart Prepaid Meter/Smart Meter would be included in its Schedule of Rates or not?

Reply:- Scope of periodical testing as directed by Hon'ble Commission will be included in the scope of AMISP during agreement.

Further, the rate of smart prepaid meter will be included in schedule of rates once the deployment of meters will start.

11. With regard to UPCL's submission dated 25.07.2023 at point no. 22, UPCL is required to submit the Architectural drawing clearly indicating the no. of DCU, HES, modem, repeaters etc required in the system. Also confirm the location where the Data Recovery System & Data Center for the system shall be placed.

Reply:- Architectural Drawing has already been submitted to Hon'ble commission in our previous submission dated 25.07.2023. Further the Smart Metering project is SLA linked and AMISP is responsible & shall maintain the SLA, hence No of DCU, HES, Modem, Repeater etc. has to be installed by AMISP in such a way and as per project requirement to maintain the pre-defined SLAs. Also the data flow and storage from Meter to HES is through DCU (In case of RF) is cloud based data center. Cloud service provider shall be provided and managed by AMISP.

As per Standard Bidding Document clause 2.7.3 sub clause 2.7.3.1 (e) states that "The AMISP shall be responsible for providing the cloud data centre services. It shall be up to the AMISP, to identify the critical service agreements with the concerned cloud data centre provider in order that the AMISP can meet and sustain the SLA for the AMI project."

12. *With regard to UPCL's submission dated 25.07.2023 at point no. 23, UPCL is required to confirm whether provision of maintaining negative balance exists in Smart Meters. If yes, specify the threshold limit of the same.*

Reply:- *Yes, Provision of maintaining negative balance exists in Smart Meters. It shall operate by MDM functionality as per Standard Bidding Document Clause 2.7.4 m) which states that "It shall be possible to configure certain prepaid consumers where auto-disconnections shall not happen due to negative credit."*

Further, Conditions/protocols for auto-disconnections of Annexure-I of Standard Bidding Document states that, "The auto-disconnection shall not be allowed during gazetted holiday / national holidays and during night-time".

13. *With regard to UPCL's submission dated 25.07.2023 at point no. 28, UPCL is required to submit whether the estimates submitted in the instant petition are inclusive of GST or not. Further, UPCL is required to submit whether the CGST and SGST shall be borne by it or by other Agency (provide the name of the Agency).*

Reply:- *The estimates submitted are inclusive of GST.*

Further, in pursuant to clause 4.1 Eligible Cost for determining grant, the central taxes are eligible for the project cost. Therefore, CGST will be borne by central govt. and SGST will be borne by state govt.

14. *UPCL is required to submit an affidavit w.r.t. point no. 7 'Matter not previously filed for pending with any other Court' of Form-I of UERC (Conduct of Business) Regulations, 2014 that it has neither filed any Petition or Appeal or suit regarding instant matter before any court or authority nor any such Petition or Appeal or Suit is pending before any of them.*

Reply:- *The desired affidavit is hereby annexed.*

15. *UPCL is required to clarify whether the Smart Meters/Smart Pre-paid Meters would be able to time-synchronize with GPS clock or not. Further, whether software updation and change in ToD time slot could be possible remotely in Smart Meters/ Smart Pre-paid Meters*

Reply:- *Yes, Smart Meters/Smart Prepaid Meters would be able to time synchronize with GPS clock and as described in Standard Bidding Document clause no. 2.4 Meter Data Management sub clause 10 synchronizing RTC of Meters.*

Further, updation and change in ToD time slot could be possible remotely as mentioned in Annexure 13 of Standard Bidding Document.

16. *UPCL is required to furnish the information of those provisions/clause of Standard Bidding Document (SBD) of REC, GoI that has been changed/revised by UPCL and furnished before the nodal agency for approval in the following format:*

S. No.	Clause No. of SBD	Relevant provision of the SBD of REC	Relevant provision revised as per UPCL	Rational for proposing such change
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Reply:- Required information is given as below:

S. No.	Clause No. of SBD	Relevant provision of the SBD of REC	Relevant provision revised as per UPCL	Rational for proposing such change
Advanced Metering Infrastructure Service Provider				
1	8, Qualification Requirements 8.1 Technical Requirement	2.Sole/ Lead Bidder/ any other Consortium Member must have experience of integration of head-end system with MDM on standard interfaces and data exchange models for at least [20,000] consumers / end points (cumulatively) in an Indian/ Global Utility (power/ water/ natural gas/ telecom) in the last 7 (seven) years which are in operation for at least 1 (one) year. Or Sole/ Lead Bidder/ any other Consortium Member should have installed, integrated, tested, and commissioned control center hardware (or on cloud) and application software for at least [50,000] endpoints (cumulatively) in an Indian/ Global Utility (power/ water/ natural gas/ telecom) in last 7 (seven) years which are in operation for at least 1(one) year	2.Sole/ Lead Bidder/ any other Consortium Member must have experience of integration of head-end system with MDM on standard interfaces and data exchange models for at least 3 Lakh consumers / end points (cumulatively) in an Indian/ Global Utility (power/ water/ natural gas/ telecom) in the last 7 (seven) years which are in operation for at least 1 (one) year. Or Sole/ Lead Bidder/ any other Consortium Member should have installed, integrated, tested, and commissioned control center hardware (or on cloud) and application software for at least 5 Lakh endpoints (cumulatively) in an Indian/ Global Utility (power/ water/ natural gas/ telecom) in last 7 (seven) years which are in operation for at least 1(one) year	To maintain quality and attracting potential bidders and considering UPCL large scale (about 16 lakh) quantity of the project. Further, to ensure whether bidder has the right product/solution as per the specifications and requirements of the project.
	8.2, A, Meter Manufacturer A1	Option 1: Should have manufactured and supplied minimum [1,00,000] nos. of Smart meters (cumulative) on proposed communication technology in Indian/Global Power Distribution Utility in the last 7 (seven) years. Option 2: Should have manufactured and supplied minimum [20,00,000] nos. of static electricity meters (cumulative) in Indian/Global Power Distribution Utility in the last 7 (seven) years. Option 3: Any meter manufacturer who doesn't satisfy Option 1 & 2 but satisfies conditions (A2), (A3) & (A4) below, can also be eligible to participate in the bid as a meter manufacturer. However, meters procured for this tender from this particular meter manufacturer/ supplier, shall be limited to [25%] of the total meters proposed to be implemented as part of this tender.	Option 1: Should have manufactured and supplied minimum 5 Lakhs nos. of Smart meters (cumulative) on proposed communication technology in Indian/Global Power Distribution Utility in the last 7 (seven) years. Option 2: Should have manufactured and supplied minimum 50 Lakhs nos. of static electricity meters (cumulative) in Indian/Global Power Distribution Utility in the last 7 (seven) years. Option 3: Any meter manufacturer who doesn't satisfy Option 1 & 2 but satisfies conditions (A2), (A3) & (A4) below, can also be eligible to participate in the bid as a meter manufacturer. However, meters procured for this tender from this particular meter manufacturer/ supplier, shall be limited to 5% of the total meters proposed to be implemented as part of this tender.	To maintain quality and attracting potential bidders and considering UPCL large scale (about 16 lakh) quantity of the project. Further, to ensure whether bidder has the right product/solution as per the specifications and requirements of the project.
	8.2, E, RF Technology/ Solution Provider E1	The RF technology/ Solution provider should have implemented project/(s) with at least [50,000] (cumulatively) modules / endpoints involving Radio Frequency (RF) mesh in an Indian/ Global Utility (power/ water/ natural gas/ telecom) in the last 7 (seven) years.	The Proposed RF technology by the RF Solution provider should have been implemented in project/(s) with at least 5 Lakhs (cumulatively) modules / endpoints involving Radio Frequency (RF) mesh in an Indian/ Global Utility (power/ water/ natural gas/ telecom) in the last 7 (seven) years.	
2			Corrigendum for Proof of Concept (Live demonstration) Details attached.	
Loss Reduction				
1	Clause No. 2.2.8.6	The bidder should meet the necessary license class requirements as applicable for the	The bidder should meet the necessary license class requirements as applicable for	If a contractor does not have

S. No.	Clause No. of SBD	Relevant provision of the SBD of REC	Relevant provision revised as per UPCL	Rational for proposing such change
		execution of works in this RFB. However, in case the bidder does not hold the license for the given State, then the bidder should possess the equivalent license for any one State in India and post-award the bidder is required to acquire the necessary license for the given State within a period of two months. In case bid is submitted by Joint Venture, all partners whose scope as per the delineation of responsibilities amongst JV partners includes execution of Works or part thereof at Site, should possess and/or acquire the necessary license as stated above.	the execution of works in this RFB. However in case the bidder does not hold the license for Uttarakhand State, then the bidder should possess the Class A license for any one State in India and the bidder is required to acquire the Class-A license for Uttarakhand State and submit the same before the opening of Financial Bid". In case bid is submitted by Joint Venture, all partners whose scope as per the delineation of responsibilities amongst JV partners includes execution of Works or part thereof at Site, should possess and/or acquire the Class-A license and submit the same before the opening of Financial Bid".	class A certificate of Uttarakhand state at the time of award and is unable to acquire the same within two months post award, it may delay/the project may not get started at all. As RDSS project is to be implemented in a time bound manner otherwise Uttarakhand may loose marks in the results evaluation matrix there by putting at risk the grant component in the scheme, modification in clause was proposed.

”

10. Post submission of replies on the queries, the Commission admitted the aforesaid Petition.

Commission’s Observations, Views & Directions:-

11. Government of India has launched an ambitious Revamped Distribution Sector Scheme (RDSS) with the objective to improve the commercial and functional efficiency of the distribution sector. The scheme involves implementation of Advance Metering Infrastructure (AMI) based Smart Metering works and distribution infrastructure works. Implementation of AMI based Smart Metering works aims to facilitate the improvement of the billing & collection efficiency of the distribution licensee and to enable automated real time energy accounting and distribution infrastructure works. This inturn would also enable the distribution licensee to operate its distribution network in efficient, economical, and reliable way.
12. The works covered under Revamped Distribution Sector Scheme (RDSS) are divided into two parts namely Part-A & Part-B. Part-A is further divided into

Smart Metering Works, Distribution Infrastructure Works & Project Management while Part-B relates with Training & Capacity Building Works. The 'Distribution Infrastructure Works' of Part-A is further split into 'Loss Reduction Works' and 'Modernization & System Augmentation Works'. The Petitioner has submitted a letter dated 18.07.2022 of PFC Ltd. pertaining to 'financial assistance to UPCL for implementation of RDSS scheme in the State of Uttarakhand' wherein, the 'Smart Metering Works', 'Loss Reduction Works' and 'Project Management' have been sanctioned as per the following details: -

Sl. No.	Grant No.	Name of Project	Approved Project Cost	GoI Grant* Sanctioned	Additional** Incentive (GoI Grant)
1	09181001	RDSS Smart Metering Works	1045.04	235.14	57.04
2	09184S01	RDSS PMA Grant for Smart Metering Works	5.88	5.29	NA
		Total	1050.92	240.43	57.04
1	09182001	RDSS Loss Reduction Works	1426.00	1283.40	NA
2	09184L01	RDSS PMA Grant for Loss Reduction Works	21.39	19.25	NA
		Total	1447.39	1302.65	NA
		Grand Total	2498.31	1543.08	57.04

*22.50% of the approved cost of the metering including the operational cost, provided that it is not more than Rs. 1350 per meter for consumer metering only.

** Maximum incentive GBS for deployment of prepaid Smart meters by December, 2023-11.25% of the cost per consumer meter including operational cost or Rs. 675 per consumer meter, whichever is lower.

Thus, the Petitioner, in line with above referred sanctioned details, has sought the investment approval for the works against 'Smart Metering Works' 'Loss Reduction Works' and 'Project Management' amounting to Rs 1045.04 Cr, Rs 1426 Cr and Rs 27.27 Cr respectively in the instant Petition. The total cost of works sought for investment approval is Rs 2498.31 Cr, out of which the MoP would be providing the total Gross Budgetary Support (GBS) of Rs 1600.12 Cr (Rs 292.18 Cr for Smart Metering Works (including additional incentive of Rs. 57.04 Cr), Rs 1283.40 Cr for Loss Reduction Works and Rs 24.54 against Project Management Charges) subject to the fulfillment of provisions of 5.2 of RDSS Guidelines dated 05.07.2022 pertaining to the release of grant for Metering and Distribution Infrastructure Works.

The Commission vide its letter dated 22.08.2023 has sought information from the Petitioner whether the costs/estimates of the proposed works under the instant Petition are inclusive of GST or not, in response to the same, the Petitioner vide its letter dated 08.09.2023 has confirmed that the submitted costs/estimates of the proposed works are inclusive of GST.

13. With regard to Gross Budgetary Support (GBS) in the instant Petition, the Commission observed that the GBS scheme like RDSS provides upfront capital expenditure as a grant and encourage/assist the Petitioner in providing 24X7 uninterrupted, quality, reliable and affordable power supply to its consumer by strengthening the Petitioner's distribution infrastructure and improving its performance & efficiency. However, the Commission cautions the Petitioner that implementation of the scheme/project must be completed within the specified timelines of GoI in Order to avail the grant and incentive of the scheme as GoI would not release grant in case the project is not executed within the specified milestones resulting in huge financial losses to the Petitioner. Furthermore, such financial losses may also be not allowed in the ARR of the Petitioner.
14. Based on the Petition and submission made by the Petitioner from time to time, the Commission has made its observations, expressed its views & issued directions on the works/issues as follows:
15. **For Smart Metering Works**
 - (1) Since 2016, with publication of National Tariff Policy 2016, Smart Meter have been made mandatory for all consumers with consumption greater than 200 unit per month. Advanced Metering Infrastructure (AMI) is an integrated system of smart meters, communication networks and data management systems that enables two way communication between the utilities and energy meters, and the functional blocks of Advanced Metering Infrastructure typically include Head End System (HES), Wide Area Network (WAN), Neighborhood Area Network (NAN), Data Concentrator Unit (DCU) and Home Area Network (HAN). Smart Meter roll out mandated by the Government has been a great step for power distribution sector in the Country, however, due to lack of funding and proper guidelines the distribution licensees were unable to roll out the

Smart Metering in their respective distribution & retail supply areas. Revamped Distribution Sector Scheme (RDSS) of GoI has provided the upfront financial assistance to distribution licensees along with the provision of infusing the remaining amount by Advanced Metering Infrastructure Service Provider (AMISP) under TOTEX mode. Thus, the distribution licensee does not have to pay upfront for all the capital expenditure.

- (2) The Commission agrees that Advanced Metering Infrastructure (AMI) alongwith Smart meters have many advantages viz:
 - (a) Acquisition of relevant data in a timely & reliable manner by enabling bidirectional, secure communication between the Smart Meter and the Head End System (HES).
 - (b) It eliminates manual intervention and also improves operational efficiency, frequent meter data collection, increase billing efficiency, provision to remotely connect/disconnect, outage detection and management.
 - (c) Remote metering and billing, implementation of peak and off-peak tariff and Demand Side Management (DSM) through demand response. These would become essential in future for load generation balancing due to increasing penetration of intermittent types of generation like solar power.
 - (d) Smart Metering based energy accounting has potential to detect and check energy pilferage.
- (3) The Commission is of the view that the objective of Smart Metering would only be achieved if all the components of AMI viz. Meters, Meter Interface Unit (MIU), Sensor & Remotely controlled variables are functioning properly and efficiently. Further, the uninterrupted higher bandwidth internet connection would also be required for two-way communications. Non-operation of any of the AMI components or non-availability of internet connection would impede the objective of Smart Meters. Further, the Commission is of the view that effective meter data communication system is going to be a vital element in successful implementation of smart metering project and thus the choice of type of

communication system viz. GPRS/RF etc. needs to be studied/analyzed carefully based on consumer concentration/geographical constraints prior to project implementation.

Furthermore, the personnel of the Petitioner responsible for handling the system should also be very well versed/aware of the AMI technology in order to access and analyze the data/information of the consumer's Meter.

- (4) Further, the Commission is of the view that there is considerable probability that with high penetration of smart prepaid meters, the theft of power may increase if the same is not accompanied by end-to-end energy accounting. It is very important to conduct real time energy accounting from the data available from smart meters at the feeder, distribution transformer and consumer level. The accounting shall take place at the Meter Data Management (MDM) level and MDM shall be interface with various IT/OT devices.
- (5) With regard to 'Scheme outlay, Funding pattern & Grant Release' of RDSS guidelines dated 05.07.2022 of GoI at Para 5.1.3 of Chapter 5, additional incentive in the form of grant of 11.25% or Rs. 675 per consumer Meter (for special category State) whichever is lower, would be released for Metering component of scheme subject to deployment of prepaid smart meters by December, 2023 followed by installation, commissioning and demonstration of atleast one prepaid recharge in the area specified by the discom in the DPR approved by the monitoring committee. Hence, the Commission firmly opines that the Petitioner should put its all endeavor to achieve maximum benefit of the scheme. **Further, the Petitioner is directed to strictly adhere to the provisions of Clause 5.2.1 of RDSS Guidelines dated 05.07.2022 pertaining to the release of grant for metering works and submit the required information/documents to PFC/REC/MoP timely for release of the grants.**
- (6) With regard to the Commission's specific query raised vide its letter dated 22.06.2023 on recovery of expenses incurred on implementation of Smart Metering Component of RDSS project from Annual Revenue Requirement or from individual consumer, UPCL vide its letter dated 22.07.2023 has

submitted that the implementation of Smart Metering Component is proposed through PPP on TOTEX mode and the component is self-financing. However, later UPCL vide its letter dated 08.09.2023 submitted that the Smart Metering works will be implemented under OPEX mode and also referred SBD clause wherein it has been indicated that the payment to AMISP shall be considered as operational expenditure while filing ARR and Tariff Review Petition to the State ERC. The essence of the UPCL's initial submission w.r.t. mode of implementation Smart Metering works has completely been changed in its later submission.

Further, MoP vide its circular no. F.No.14/02/2021-UR&SI-II-Part(1)(E-258136) dated 16.09.2023 has quantified the self-sustaining model for Smart Metering implementation under RDSS wherein, it has been categorically mentioned that the balanced costs other than the grant provided by GoI shall be recovered through increased revenue / revenue gain as a result of improved billing and collection efficiency facilitated by the Smart Metering Project implementation. The MoP in its aforesaid circular dated 16.09.2023 has clearly mentioned that Smart Metering implementation is self-sustaining model and therefore, no extra cost be passed on to the consumers.

In this regard, the Commission observed that in the Metering work of RDSS scheme in Uttarakhand State, the GoI is providing 22.5% grant limited to Rs 1350 per meter, UPCL equity is 2.5% and the remaining amount of 75% shall be borne by Advanced Metering Infrastructure Service Provider (AMISP) under TOTEX mode. The AMISP shall recover its finance on the project through the enhanced revenue as a result of improvement in billing & collection due to proposed Smart Metering works in 93 months (excluding 27 months of installation period). Further, MoP will be providing an additional incentive of 11.25% of the cost per consumer Meter including operational cost or Rs. 675 per consumer Meter, whichever lower if the work would be executed within the specified timeline. UPCL vide its submission dated 08.09.2023 has stated that it will try its best to avail additional incentive/benefit.

Further, the Commission observed that the Smart Metering Component under RDSS as stipulated in the aforesaid circular dated 16.09.2023 of MoP, is a self-financing model wherein, the balance cost other than the grant/incentive provided by the Government of India will be recovered through increased revenue as a result of improved billing and collection efficiency facilitated by the Smart Metering Project implementation. The Petitioner does not have to pay any upfront cost as well as other operational expenses and thus there would not be any additional burden on consumers. Therefore, this explicitly inferred that the expenditure incurred in the implementation of Smart Metering works of RDSS shall not be passed on the consumers of the State.

- (7) The Petitioner in its submission dated 25.07.2023 submitted that the operation and maintenance of all installed smart meters shall lie in the scope of AMISP and therefore, AMISP shall replace all the defective meters in accordance with the prevailing Regulations. **In this regard, the Commission directs the Petitioner to maintain the sufficient spares inventory of Smart Prepaid Meters/Smart Meters in order to avoid any inconvenience to its consumers when meters get failed/stuck/damaged.** Further, at Sub Regulation (3) of Regulation 5.1.3 'Testing of Meters' UERC (The Electricity Supply Code, Release of New Connections and Related Matters) Regulations, 2020 it has been specified that the interval for regular periodical testing of meters viz. one year for bulk supply meters (HT), 05 years for LT meters and 02 years for meters installed at PTW connections. **In this regard, the Commission directs the Petitioner to comply with the aforesaid provisions w.r.t. periodical testing of meters while implementing the metering works of RDSS under TOTEX mode.**
- (8) The Commission also observed that in order to bring consumer satisfaction and adoption of smart meters, MoP vide its circular no. F.No.11/01(28)/2022-UR&SI-II-(E-268322) dated 16.09.2023 directed discoms to install minimum 5% check meter, in series, of the total smart meters and the cost of installation of these check meters shall not be passed on to the consumers, but the same shall be borne out of the savings. **Therefore, the Commission directs the Petitioner to install at least 5% check meter in series with the total smart meters proposed in the**

metering works of RDSS and cost of the same shall not be passed on to the consumers but shall be borne out of the savings. The Petitioner may use existing non smart meters already functioning correctly on consumer's premises for the purpose of check meters.

- (9) With regard to the specific query raised by the Commission in its letter dated 22.06.2023 pertaining to the contingency provisions for recharging of smart prepaid meters during conditions of server down/updation/holidays/ communication failure etc and provision of threshold limit for negative balance in smart meters, the Petitioner in its submission dated 25.07.2023 submitted that the auto disconnection shall not be allowed during gazetted holidays/national holidays and during night hours. Further, the Petitioner in its submission dated 08.09.2023 submitted that the smart prepaid meters have the provision of negative balance for certain prepaid consumers.

In this regard, the Commission is of view that the provision of negative balance should not be limited to some consumers but the same shall be facilitated for all the prepaid consumers as the condition may arise for all the prepaid consumers where they will not be able to recharge its connection/meter due to server down/communication failure etc and their smart prepaid meters gets disconnected due to zero balance. The non-disconnection of smart prepaid meters on gazetted holidays/national holidays and during nighttime will not address the issues where the meter of such consumer get disconnected due to zero balance as the issue of server down/communication failure may also arise during the day/period other than gazette holidays/national holidays and during night hours.

The Commission in the Tariff Order Dated 30.03.2023 of the Petitioner has also directed the Petitioner to make necessary provisions to provide friendly credit hours/ limit to the consumers, in order to ensure uninterrupted supply to the consumer in the event of expiry of the balance during non-working hours, i.e. night time or during holiday, so as to provide reasonable time to the consumer to procure the recharge voucher at the next possible working hours or working day. **Therefore, for safeguarding consumers satisfaction by giving additional time to recharge their zero-balance smart prepaid meters, the Commission directs**

the Petitioner to ensure the provision of negative balance for all the prepaid consumers so that their supply would not be interrupted/disconnected until the negative balance gets exhausted/used.

16. **For Loss Reduction Works**

- (1) With regard to 'Loss Reduction Works' and based on the submission made by the Petitioner, the Commission observed that:
 - (a) Being the Special Category State, it is eligible for 90% grant from MoP.
 - (b) Petitioner has secured 88.82 marks and qualified in Results Evaluation Framework for FY 2021-22.
 - (c) Grant for 'Loss Reduction Works' alongwith the sanction of DPR & release of grant for 'Modernization & System Augmentation' will be released in a manner stated in the Clause 5.2.2 of RDSS Guideline dated 05.07.2022 if it will score minimum 60% marks in the Evaluation Matrix for FY 2021-22 and further for FY 2022-23 & FY 2023-24.
- (2) The Commission is of the view that non-achievement of the minimum specified marks i.e. 60 marks by the Petitioner in any of the Financial Year as stated above shall result in non-release of eligible grant for that specific year resulting in the huge financial loss to the Petitioner. Although the Petitioner has secured 88.82 marks and qualified in Results Evaluation Framework for FY 2021-22, **the Commission directs the Petitioner to strictly adhere to the provisions of Clause 5.2.2 of RDSS Guidelines dated 05.07.2022 pertaining to the release of grant for Distribution Infrastructure Works by obtaining minimum marks in each Results Evaluation Framework for FY 2022-23 and FY 2023-24 as the same will not only make it eligible for release of grants for Loss Reduction Works but same will also make the Petitioner's eligible for the sanction of DPR & release of grant for 'Modernization & System Augmentation works'.**
- (3) With regard to the Commission's specific query on furnishing division wise baseline distribution losses, collection efficiency and AT&C losses of the Petitioner for FY 2020-21 along with target set for these parameters after

completion of the RDSS scheme, the Petitioner vide its submission dated 03.08.2023 has submitted that the targeted AT&C loss levels has been setup for Discom as a whole instead of division wise in the agreed Result Evaluation Matrix and are 17.20%, 16.10%, 14.99% and 13.96% for FY 2021-22, FY 2022-23, FY 2023-24 and FY 2024-25 respectively against the baseline AT&C loss figures of 17.79% for FY 2020-21. The Petitioner further submitted that against the AT&C target level of 17.20% in FY 2021-22 it has achieved the target level of 15.75% and has submitted the Division-wise baseline distribution losses, collection efficiency and AT&C losses of UPCL for FY 2020-21 alongwith actual achievement for FY 2021-22, tentative achievement for FY 2022-23 and targeted figures for FY 2023-24 as stated in the table at point no. 4 of 'UPCL's submission vide letter dated 03.08.2023' at Para 8 of this Order.

- (4) The Commission observed that PFC Ltd. vide its letter dated 18.07.2022 has approved the following AT&C losses and ACS-ARR Gap trajectories:

Parameter	Units	Max marks	Base Year	Baseline values	Targets			
					FY 2022	FY 2023	FY 2024	FY 2025
ACS-ARR Gap (revenue on cash basis and subsidy received basis, excluding regulatory income & UDAY grants)	Rs./kwh	25	FY 20-21	0.11	0.11	0.08	0.04	0
ACS-ARR Gap (accrued basis)			FY 20-21	0.19	0.31	0.23	0.14	0.06
AT&C loss	%	35	FY 20-21	17.79	17.20	16.10	14.99	13.96

- (5) In this regard, the Commission is of the view that although the Result Evaluation Matrix stipulates the targeted AT&C loss as a whole for the Petitioner but it can only be achieved by evaluating and monitoring the same at micro-level i.e. at division level. From the aforesaid submissions of the Petitioner, the Commission observes that there are many divisions whose actual or tentative or proposed AT&C losses for FY 2021-22, FY 2022-23 & FY 2023-24 are more than their targeted AT&C losses as

stipulated in the agreed Result Evaluation Matrix. The Commission opines that the Petitioner should do its all endeavors to limit the division-wise AT&C losses of FY 2022-23 & FY 2023-24 within the targeted AT&C losses of the Petitioner's as a whole which are stipulated in the agreed Result Evaluation Matrix.

- (6) With regard to works proposed under the Loss Reduction component of RDSS scheme, the Commission opines that the intent of the said works is to identify the weak & inefficient links/areas of pilferage of electricity in the distribution network and replace/augment them with efficient system which helps in reduction of AT&C losses. Therefore, the Commission cautions the Petitioner to execute the said works diligently duly considering the aspects of future load growth as the same would not only make its system reliable but also it would help in meeting the true objective of RDSS project including AT&C Loss reduction and ACS-ARR gap to zero.

17. Project management

The Petitioner has submitted that it has appointed M/s PFC Consulting Ltd. for preparation of Action Plan & DPR and M/s Medhaj Techno Concept Pvt. Ltd. as Project Monitoring Agency (PMA) for providing consultancy services regarding assisting and supporting in project management to the Petitioner under RDSS. M/s PFC in its sanction letter 18.07.2022 has sanctioned the PMA charges of Rs. 5.88 Cr for Prepaid Smart Metering works and Rs. 21.39 Cr for loss deduction works with GBS of Rs. 5.29 Cr and Rs. 19.25 Cr. In this regard, the Commission opines that the works assigned to PMA should be completed within the stipulated time frame and the cost of the PMA should not go beyond the cost approved by M/s PFC in its aforesaid sanction letter dated 18.07.2022.

18. General

Under Ground for Relief in the Petition, the Petitioner has submitted the advisory issued by the MoP vide its letter dated 13.09.2022 on issues relating to Smart Metering roll out under the RDSS and has requested the Commission for its direction in the matter. The MoP in its aforesaid advisory dated 13.09.2022 recommended that for faster roll out of the Smart Metering, there is a need to address certain issues being faced by the consumers and the recommendations to

be implemented immediately in the States/Discoms while rolling out Smart Meters. The two issues flagged by the MoP pertain to (i) levying of penalties on consumers on finding higher connected load immediately after the installation of Smart Meters (ii) Arrear management post conversion of postpaid electric meter to smart prepaid meter. The relevant extract from the MoP aforesaid advisory dated 13.09.2022 is mentioned below:-

“ ...

With a progressive increase in number of Smart Meters across the Country, the experience gained suggests that the same is being received well by the consumers. For faster rollout, there is a need to address certain issues being faced by the consumers.

2. One of the consumers is levying of penalties by the DISCOMs on consumers on finding higher connected load immediately after the installation of Smart Meters. The second concern emanates from the deduction of arrears, which in many cases is quite high in comparison to the current monthly bill/consumption. Addressing these concerns is of utmost importance to ensure consumer satisfaction and reducing resistance in take up of prepaid Smart Metering. These guidelines are issued to ameliorate these concerns of the consumers.

3. In so far as the levying of penalties regarding higher than connected load is concerned, since DISCOMs have not been previously measuring and intimating the demand charges to consumers on regular basis, it is imperative that in case of finding higher demand post conversion to prepaid/smart metering, no penalties are imposed from the consumers and bills are raised on the basis of actual load and consumption. The system of charging of the demand charges should be such that the default mode of billing/deductions is on the basis of actual demand every month, with an option given to consumers to revise the same as per his own assessment. Penalties, however, shall be admissible in case the actual demand goes beyond the consumer opted demand. For this purpose, the consumer mobile App should send notifications/ SMS to the consumers as and when the demand charges go beyond the consumer opted demand. Further, DISCOMs may like to give consumers a period of six months post installation of smart meter to get attuned to this system without levying any penalties. For this purpose, the Supply Code of the DISCOMs may be amended for which DISCOMs may take up with SERCs.

4. In so far as the arrear management post conversion to prepaid is concerned. If an appropriate system for recovery of arrears is not put in place, chances may arise that the Smart prepaid meters switch off even with the consumer regularly recharging their prepaid

meters as the arrears may be higher than the recharge amount. For this purpose, the following prospects are advised:

- a. Discoms may analyse the overall arrears of the consumers at the time of conversion from postpaid meters to prepaid Smart meters.*
 - b. The monthly recovery schedule of the arrears should be such that under no circumstances should the amount of monthly deduction is beyond 25% of the average monthly billing based on the consumption of the last three months.*
 - c. The recovery of the arrears so determined for a month may be carried out over all the days of the month in equal daily installments, which shall be deducted from the recharge balance available in the consumers.*
 - d. Consumers may be routinely advised on the amount recovered as arrears through notification/SMS.*
 - e. Consumers could also be provided an option to opt in for a one-time recovery, or part payment of the recovery, if he decides to opt for the same.*
- 5. The above advisory may be implemented immediately in the States/DISCOMs while rolling out Smart Meters. Consumers need to be educated well in advance of the rollout about the mechanisms so designed."*

With regard to the issue of levying of penalties on consumers on finding higher connected load immediately after the installation of Smart Meters, Regulation 5.2.3 'Excess load, Demand penalty' of UERC (The Electricity Supply Code, Release of New Connections and Related Matters) Regulations, 2020 has addressed the same as the Commission has kept the provision of automatic enhancement of load after specified time period and exempted the levying of maximum demand violation charges on the domestic consumer. The Commission has provided sufficient time duration to domestic as well as non-domestic consumers for restricting its load within the sanctioned load. Therefore, the Commission is of the view that as of now there is no need to amend/relax aforesaid Regulation with regard to violation of maximum demand load by the consumers covered under the Smart Metering Project of RDSS scheme however, the Petitioner may approach the Commission separately in case any difficulty arises post implementation of Smart Metering works under RDSS scheme.

With regard to the issue of Arrear management post conversion of postpaid electric meter to smart prepaid meter, the Commission in its Tariff Orders genuinely taken up the issues of outstanding arrears of the consumer opting for Prepaid Metering viz the Commission in its current Tariff Order dated 30.03.2023 for FY 2023-24 directed the Petitioner to adjust 20% of the past arrears or 50% of the recharge amount, whichever is higher from the recharge voucher, subject to the maximum of the outstanding arrears. However, to avoid consumer's aggression/agitation in take of prepaid meters and to build Consumer's satisfaction, the Commission opines that the appropriate system for recovery of arrears should be setup to facilitate the consumers in paying its arrears in installments. **Thus, the Commission directs the Petitioner to approach the Commission separately along with its proposal for management of arrear post conversion of postpaid electric meter to smart prepaid meter.**

19. Based on the petition, subsequent submissions of the Petitioner and discussions made above, the Commission hereby grants in-principle approval to the Petitioner for going ahead with the proposed works pertaining to Smart Metering Works, Loss Reduction Works and Project Management under RDSS subject to the following:
 - (1) The Petitioner should go for the competitive bidding for obtaining the most economical prices from the bidders.
 - (2) The Petitioner should execute the proposed works in accordance with the RDSS Guidelines dated 05.07.2022 and as amended/modified/issued new guidelines/notifications from time to time by MoP, GoI and ensure that the works should be executed with quality, durability and within timeline specified in the aforesaid Guidelines or notifications.
 - (3) The Commission may verify/check the proposed works to be executed by the Petitioner at any point of time during/post execution of the works from the perspective of Quality, Optimum utilization of resources, Benefits accrued from the proposed investments etc.
 - (4) All the conditions as laid down by the PFC in its detailed sanction letter dated 18.07.2022 and Tripartite Agreement dated 08.09.2022 between PFC, GoU & Petitioner are strictly complied with.

- (5) The Petitioner shall, within one month of the Order, submit letter from the State Government or any such documentary evidence in support of its claim for equity funding agreed by the State Government or any other source in respect of the proposed works under the instant Petition.
- (6) The Petitioner shall ensure compliance of the following CEA Regulations and UERC Regulations and amendments thereof and relevant technical standards while executing the Metering Works & Loss Reduction Works. The Project should be executed with due diligence in order to ensure consumer satisfaction in implementation of the Project:-
- a) Central Electricity Authority (Installation and Operation of meters) Regulations 2006 and amended thereof.
 - b) Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022
 - c) Central Electricity Authority (Safety requirements for construction, operation and maintenance of electrical plants and electric lines) Regulations 2011 and amended thereof.
 - d) Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2023
 - e) Central Electricity Authority (Technical Standards for Communication System in Power System Operation) Regulations, 2020
 - f) UERC (The Electricity Supply Code, Release of New Connections and Related Matters) Regulations, 2020
 - g) UERC (Distribution Code) Regulations, 2018.
- (7) After completion of the aforesaid works of RDSS scheme, the Petitioner shall submit the completed cost and financing of the schemes.
- (8) On completion of the aforesaid works under RDSS, the Petitioner shall submit the completed cost of each of the works alongwith copy of measurement book & as built drawings and financing of the project.

- (9) The cost of the project and servicing on the same, as applicable, shall be allowed in the Annual Revenue Requirement of the Petitioner after the assets are capitalized and subject to prudence check of the cost incurred.

Ordered accordingly.

(M.K. Jain)
Member (Technical)

(D.P. Gairola)
Member (Law) /Chairman (I/c)