

**RAJASTHAN ELECTRICITY REGULATORY COMMISSION  
JAIPUR**

**Petition No. RERC/2243/2024**

In the matter of

Petition filed under section 63 (Determination of tariff by bidding process) of the Electricity Act 2003, read with regulation 19 and 21 of RERC (Transaction of Business), Regulations, 2021, for approval of levelized tariff discovered through transparent competitive bidding carried out by JdVVNL for solar power projects under Component-C (Feeder Level Solarization) of Pm-Kusum Scheme under TN-25,36,48,49 & 57.

**Coram:**

**Shri Hemant Kumar Jain, Member (In Chair)**

**Dr. Rajesh Sharma, Member**

Jodhpur Vidyut Vitran Nigam Limited.

**Petitioner**

**Date of hearing:**

**22.08.2024**

Present : Sh. Bipin Gupta, Advocate for Petitioner.

**Date of order**

**11.09.2024**

**Order**

1. The present Petition has been filed by Jodhpur Vidyut Vitran Nigam Limited (hereinafter referred to as 'JdVVNL' or the 'Petitioner') under Section 63 of the Electricity Act, 2003 for determination of tariff by bidding process read with regulation 19 and 21 of the RERC (Transaction of Business), Regulations, 2021, for approval of Levelized tariff discovered through transparent competitive bidding carried out by JdVVNL for Solar Power Projects under Component-C (Feeder Level Solarization) of the PM-KUSUM Scheme under TN-25, 36,48,49 & 57.

2. The matter was heard on 22.08.2024. Advocate Sh. Bipin Gupta, appeared for the Petitioner.
3. Petitioner in its petition and during the hearing mainly submitted as under:
  - 3.1. The Petitioner herein is one of the three Distribution Licensees in the State of Rajasthan and is undertaking the functions of distribution and retail supply of electricity to the public at large in its area of distribution.
  - 3.2. Ministry of New and Renewable Energy (hereby referred to as "MNRE") launched Pradhan Mantri Kishan Urja Suraksha evam Uthan Mahabhiyan Scheme (PM-KUSUM) scheme for farmers on 08.03.2019 which covers following components:
    - Component A:** Installation of Decentralized Ground Mounted Grid Connected Renewable Power Plants of individual plant size up to 2 MW.
    - Component B:** Installation of 17.50 lakhs standalone Solar Powered Agriculture Pumps of individual pump capacity up to 7.5 HP.
    - Component C:** Solarisation of 10 Lakhs Grid-connected Agriculture Pumps of individual pump capacity up to 7.5 HP.
  - 3.3. MNRE issued guidelines for implementation of all three components of PM-KUSUM on 22.07.2019.
  - 3.4. On 04.12.2020, MNRE introduced and issued guidelines for implementation of Feeder Level Solarization under Component C of PM-KUSUM scheme wherein grid connected solar power plant of capacity that can cater to the annual power requirement of one or more segregated agriculture feeders can be installed either through CAPEX or RESCO mode to supply power to that feeder(s) through Central Financial Assistance (CFA) of 30% of Project Cost (under CAPEX mode) or, Rs. 1.05 per MW (under RESCO mode).

3.5. Subsequently, in supersession to MNRE OM dated 22.07.2019, MNRE issued the comprehensive Guidelines for Implementation of PM-KUSUM Scheme on 17.01.2024 with the following components:

Component A: Setting up of 10,000 MW of Decentralized Ground / Stilt Mounted Grid Connected Renewable Solar or others Renewable Energy based Power Plants of individual plant size up to 2 MW.

Component B: Installation of 14 lakhs standalone Solar Powered Agriculture Pumps of individual pump capacity up to 7.5 HP.

Component C: Solarisation of 35 Lakhs Grid-connected Agriculture Pumps including Feeder Level Solarization.

3.6. MNRE vide order dated 01.08.2022 waived off the condition of the domestic content requirement for solar cells as follows:

*“3 (ii) The conditions of the domestic content requirement for solar cells has been waived off for the feeder level solarization under Component – C for the projects awarded by the implementing agency on or before 20.06.2023.”*

3.7. Further, as on 10.03.2023 MNRE exempted from the requirement of procuring Solar PV modules from ALMM in its order as follows:

*“With reference to the Approved Models and Manufacturers of Solar Photovoltaic Modules (Requirements for Compulsory Registration) Order, 2019 and subsequent amendments and clarifications thereto, the undersigned is directed to convey that subject Order is hereby held in abeyance for one financial year, i.e. FY 2023-24. Thus, projects commissioned by 31.03.2024 will be exempted from the requirement of procuring Solar PV modules from ALMM.”*

3.8. Subsequently, MNRE vide clarification letter dated 29.01.2024 confirmed the provision of indigenous solar cells (DCR) relaxation till 31.03.2024 as follows:

*“(2) In this regard, it is to confirm that, the provision of requirement of indigenous solar cells (DCR) under Component C (FLS) of the PM KUSUM scheme has already been relaxed till 31.03.2024”.*

3.9. Further, MNRE vide OM on 14.02.2024 issued additional clarification regarding comprehensive guidelines of PM-KUSUM scheme as follows:

*“(a) CFA of Rs. 1.05 Cr./MW would be valid for all those LOAs, till any further update is announced by MNRE.*

*(b) The DCR exemption would be valid for all those Letter of Awards which have been issued on or before 31.03.2024.”*

3.10. On 29.03.2024, MNRE vide OM issued order on Approved Modules and Manufactures of Solar Photovoltaic Modules (Requirements for Compulsory Registration) Order, 2019 as under:

*“1. Vide MNRE Order of even no. dated 10th March 2023, the Approved Modules and Manufactures of Solar Photovoltaic Modules (Requirements for Compulsory Registration) Order (ALMM Order) was held in abeyance for one financial year, i.e FY 2023-24. It is clarified that the ALMM [Approved List of Modules & Manufacturers] for Solar PV Modules, shall accordingly come into effect from 1st April, 2024.”*

*“2. Each project where the solar pV modules have been received at the project site by 31st March, 2024 and is unable to get commissioned by that day, on account of reasons beyond the control of the renewable power developers, would be examined separately.”*

3.11. Taking consideration of above orders that the exemption of DCR for solar cell is not applicable and Solar Modules covered in ALMM shall only be allowed after 31.03.2024, bidders were again requested to provide their acceptance on earlier discovered counter offer rates.

3.12. As per scheme guidelines, feeder level solarization under Component C of PM-KUSUM, the provision under Central Financial Assistance (CFA) is limited to solar capacity for 7.5 HP pumps. However, as per approval from committee, the CFA has been calculated on basis of per HP annual consumption (1451 units) or calculated on basis of SPV capacity (80% of power Transformer capacity), whichever is less.

3.13. On 30.08.2022, MNRE sanctioned 1,00,000 grid connected agricultural pumps as the target for FY 2022-23 for the Distribution licensees of Rajasthan (including Jaipur Vidyut Vitran Nigam Limited or, JVVNL) for feeder level solarization under Component-C of PM-KUSUM Scheme.

Subsequently, MNRE vide OM dated 15.09.2023 sanctioned additional 1,00,000 grid connected agriculture pumps as target for FY 2023-24. Petitioner has also submitted that MNRE vide its order no. 32/54/2018-SPV Division dated 20.08.2024 has further accorded sanction of additional allocation 100000 nos. grid connected agricultural pumps under Component C (Feeders Level Solarization) to Rajasthan State. Thus, Solar Power Projects will be implemented in line with MNRE sanctions and guidelines issued under Component-C (Feeder Level Solarization) of PM-KUSUM scheme.

- 3.14. Commission vide order dated 11.02.2020 and 07.07.2020 vide which the ceiling tariff applicable under Component A of PM-KUSUM scheme has been determined and it is held that such prefixed level is to remain applicable upto the capacity of 725 MW.
- 3.15. On 20.01.2023 and 10.02.2023, JdVVNL published Request for Selection (RfS) on e-procurement portal of Rajasthan ([eproc.rajasthan.gov.in](http://eproc.rajasthan.gov.in)) vide Tender No. JdVVNL/SE(RA&C)/TN-DSM-01 and Tender No. JdVVNL/SE(RA&C)/ TN-DSM-02 for design, survey, supply, installation, testing, commissioning, operation & maintenance for 25 years (unless extended by both the parties on mutual agreement) from COD of grid connected solar power plants through RESCO mode, its associated 33 kV OR, 11 kV line to connect the plant with various 33/11 kV sub-stations and RMS of solar power plants for solarization of agriculture consumers connected on 11 kV feeders of various GSS in JdVVNL under KUSUM Scheme – Component C (Feeder Level Solarization).
- 3.16. On 26.09.2023 and 08.12.2023, JdVVNL awarded the work for the project of 50.89 MW solar power project to the selected RESCO developers under TN-01 and TN-02 of Component-C (Feeder Level Solarization) of PM-KUSUM Scheme.
- 3.17. Furthermore, JdVVNL published various Requests for Selection (RfS) on e-procurement portal of Rajasthan ([eproc.rajasthan.gov.in](http://eproc.rajasthan.gov.in)) vide

Tender No. TN-04 to TN-66, for design, survey, supply, installation, testing, commissioning, operation & maintenance for 25 years (unless extended by both the parties on mutual agreement) from COD of grid connected solar power plants through RESCO mode, its associated 33 kV OR, 11 kV line to connect the plant with various 33/11 kV sub-stations and RMS of solar power plants for solarization of agriculture consumers connected on 11 kV feeders of various GSS in JdVVNL under KUSUM Scheme – Component C (Feeder Level Solarization).

- 3.18. Subsequently, on 01.05.2024, Commission approved levelized tariff for 1111 Nos. of Solar PV Plants for 25 years for the projects of feeder level solarization under Component C of PM-KUSUM Scheme. Further on request of JdVVNL for review of above order against typographical mistake in plant name/ capacity/CFA/levelized tariff in 38 No.s Plants out of 1111 Nos of plants, for which the Commission granted approval on 4.06.2024.
- 3.19. On 20.01.2023 and 10.02.2023, JdVVNL published Request for Selection (RfS) on e-procurement portal of Rajasthan ([eproc.rajasthan.gov.in](http://eproc.rajasthan.gov.in)) vide Tender No. JdVVNL/SE(RA&C)/TN-DSM-01 and Tender No. JdVVNL/SE(RA&C)/ TN-DSM-02 for design, survey, supply, installation, testing, commissioning, operation & maintenance for 25 years (unless extended by both the parties on mutual agreement) from COD of grid connected solar power plants through RESCO mode, its associated 33 kV OR, 11 kV line to connect the plant with various 33/11 kV sub-stations and RMS of solar power plants for solarization of agriculture consumers connected on 11 kV feeders of various GSS in JdVVNL under KUSUM Scheme – Component C (Feeder Level Solarization).
- 3.20. Subsequently, JdVVNL filed Petition No. RERC/2155/2023 for TN-DSM-01 and Petition No. RERC/2179/2023 for TN-DSM-02, the Hon'ble Commission vide order dated 24.11.2023, ordered as under:

.....

*“(2) The Commission approves Rs 3.55/kWh as the ceiling tariff for the solar projects to be set up under PM KUSUM Scheme, Component-C Feeder Level Solarisation.*

*(3) Commission also directs that Discoms will use the above ceiling tariff in their future bids. However, before initiating every future bidding the Discoms will continuously monitor the market condition and in case of any downwards revision in the cost, they should revise the above ceiling tariff downwardly at their own level.*

*(4) In case upward revision is required for future bids in the ceiling tariff the Discoms shall file a separate petition before the Commission.*

*(5) Discoms are advised to preferably select the feeders where maximum CFA from the GoI may be availed so that benefit of lower tariff can be achieved.*

*(6) Discoms will continuously monitor the change in law events and will ensure timely recovery / payment on account of change in law events as per law.*

*(7) Discoms should follow the directions issued by MNRE in respect of implementation of Feeder Level Solarisation under Component-C of PM KUSUM Scheme from time to time.”*

### **Saur Krishi Ajjivika Yojna (SKAY) under KUSUM Component-C (feeder level solarization)**

- 3.21. Based on the State's experience with implementation of PM-KUSUM Component-A and Pilot project under Component-C (Feeder Level Solarization), it was observed that availability of solar power plant developer and land are two key cost contributors as well as basic requirement of setting up of a solar power project.
- 3.22. The solar power project developers often face the difficulty in identification & procurement of suitable land area, especially, developers / investors coming from outside Rajasthan, who often faces difficulty due to uncertainty associated with land availability and cost. This makes land identification, its procurement and associated cost as the primary and most critical factors for successful setting up of solar power projects.

- 3.23. On 17.10.2022, Saur Krishi Ajjivika Yojna (hereby referred to as "SKAY"), was launched by GoR, a dedicated platform for farmers / land owners and solar power developers to address 'land identification, its procurement and associated cost' related challenge and to boost decentralized distributed solar generation under PM-KUSUM Component-C (Feeder Level Solarization). The objective of SKAY is to utilize State's abundant land resources by giving farmers / land owners an opportunity to lease out their barren / unutilized land on pre-fixed lease basis for setting up of solar power plant.
- 3.24. The portal developed as above acts as a facilitator, where interested farmers / land owners and solar power plant developers can collaborate to arrange land for a solar power plant on RESCO mode in the vicinity (preferably within 5 km radius) of identified 33/11 kV substations of Rajasthan Discoms as envisaged under PM-KUSUM Component C (Feeder Level Solarization).
- 3.25. SKAY guidelines, among other things, have the provision that Developer is to pay the agreed lease rent amount as mentioned below to the farmer / land owner or, authorized individual directly as per agreement payable during plant installation and commissioning phase (i.e., 12 months from award of contract along with any extension thereof).

<b>Prevailing DLC rate of Land at the time of registration (Rs. per hectare)</b>	<b>Indicative annual Lease Rent (Rs. per hectare)</b>
Upto 8 lakhs	80,000
More than 8 lakhs and less than 12 lakhs	1,00,000
More than 12 lakhs and less than 20 lakhs	1,40,000
More than 20 lakhs	1,60,000

- 3.26. Further, as per the SKAY guidelines (RUVITL on behalf of the Discoms) are to pay the applicable land lease rent (as per above schedule along with escalation in lease rent @5% every two years) directly to the registered farmer / land owner or, authorized individual and will recover



the same from the monthly energy payables to developer after commissioning of the solar power plant.

3.27. As of July 2024, the portal had received more than 11.50 lakhs site-hits and total 2413 nos. of farmers / land-owners and 841 developers have shown interest.

**Tenders floated by JdVVNL for feeder level solarization under PM-KUSUM Component-C :**

3.28. JdVVNL floated 63 nos. tenders (TN-04 to TN-66) covering 2158 nos. solar PV power plants with total capacity of 5744.58 MW (against 2158 nos. of SPV plants) to be installed in the vicinity of 1640 nos. of 33/11 kV Substations having 2,77,792 nos. connected agriculture consumers for the purpose of setting up grid connected solar power plant to meet the annual power requirement of feeders using solar energy.

3.29. TN wise breakup of above mentioned 5744.58 MW considered under 63 nos. tender of feeder level solarization is as follows:

S. No.	Row Labels	Number of plants	No of AG Consumers	SPV Capacity (MW)
1	TN-DSM-04	24	3007	60.48
2	TN-DSM-05	26	3404	74.40
3	TN-DSM-06	13	1202	32.76
4	TN-DSM-07	20	4205	50.40
5	TN-DSM-08	23	2899	60.92
6	TN-DSM-09	20	3894	53.36
7	TN-DSM-10	19	3273	53.80
8	TN-DSM-11	31	7231	81.08
9	TN-DSM-12	28	6354	70.56
10	TN-DSM-13	29	7776	81.96
11	TN-DSM-14	25	4381	61.76
12	TN-DSM-15	34	7149	103.44
13	TN-DSM-16	31	5849	79.84
14	TN-DSM-17	25	7918	65.96
15	TN-DSM-18	25	6096	63.00
16	TN-DSM-19	26	7199	67.00
17	TN-DSM-20	20	2006	51.88
18	TN-DSM-21	34	6393	90.12
19	TN-DSM-22	18	2168	55.72
20	TN-DSM-23	25	3960	64.48

<b>S. No.</b>	<b>Row Labels</b>	<b>Number of plants</b>	<b>No of AG Consumers</b>	<b>SPV Capacity (MW)</b>
21	TN-DSM-24	19	1496	53.80
22	TN-DSM-25	21	1986	54.88
23	TN-DSM-26	46	8924	124.8
24	TN-DSM-27	35	6942	96.56
25	TN-DSM-28	26	6411	71.44
26	TN-DSM-29	29	3882	74.80
27	TN-DSM-30	8	1089	20.16
28	TN-DSM-31	28	3419	63.12
29	TN-DSM-32	29	7479	79.00
30	TN-DSM-33	11	1313	30.68
31	TN-DSM-34	9	1264	24.16
32	TN-DSM-35	19	2787	50.84
33	TN-DSM-36	6	454	15.12
34	TN-DSM-37	12	2440	31.72
35	TN-DSM-38	13	4980	34.24
36	TN-DSM-39	26	4068	66.00
37	TN-DSM-40	12	704	31.96
38	TN-DSM-41	31	3548	78.60
39	TN-DSM-42	17	3057	45.80
40	TN-DSM-43	9	1491	22.92
41	TN-DSM-44	7	1163	22.08
42	TN-DSM-45	8	1730	21.64
43	TN-DSM-46	13	2595	30.28
44	TN-DSM-47	51	5711	132.26
45	TN-DSM-48	52	5534	131.44
46	TN-DSM-49	77	5465	201.40
47	TN-DSM-50	66	5001	150.26
48	TN-DSM-51	66	6480	185.02
49	TN-DSM-52	77	8003	213.18
50	TN-DSM-53	88	8171	233.34
51	TN-DSM-54	79	7492	215.72
52	TN-DSM-55	70	6127	197.06
53	TN-DSM-56	69	5395	193.64
54	TN-DSM-57	41	4026	117.96
55	TN-DSM-58	49	3127	140.98
56	TN-DSM-59	49	5498	117.30
57	TN-DSM-60	49	3633	129.26
58	TN-DSM-61	46	3977	125.76
59	TN-DSM-62	50	3359	131.28
60	TN-DSM-63	62	5141	166.38
61	TN-DSM-64	44	3001	122.62
62	TN-DSM-65	69	7609	187.42
63	TN-DSM-66	74	5456	184.78
<b>Grand Total</b>		<b>2,158</b>	<b>2,77,792</b>	<b>5744.58</b>

3.30. The Petitioner has opted for RESCO mode for implementation of the projects.

3.31. The project milestones and timeline as per the LoA document are as follows:

S. No.	Milestone	Timeline
1	Issuance of LoA subject to final approval of tariff by Hon'ble RERC under Section 63 of The Electricity Act, 2003 and after Unconditional acceptance of LoA by successful SPG	T1
2	Approval of discovered tariff by Hon'ble RERC	T1 + 1 month
3	Submission of Performance Bank Guarantee (PBG), Team mobilization and Site survey	T2 + 1 month
4	Signing of PPA between selected SPG and RUVITL	T3 = Within 07 days of PBG submission
5	Completion of design, supply, installation, testing and commissioning of the SPV power plant and associated 33 kV OR 11 kV line for connecting solar power plant with concerned substation	T1 + 12 month
6	Operation and maintenance of power plant and associated 33 kV OR 11 kV line	25 years from COD (unless extended by both the parties on mutual agreement)

**Outcome of the Bids received against various tenders (TN-04 to TN-66) of JdVVNL**

3.32. Initially, 1,111 plants for the above mentioned tenders, where bidders accepted the counteroffer, were submitted for approval to the Commission. Based on the tender terms and conditions and considering the levelized tariff computation by JdVVNL, Commission approved the tariff determination petition for these 1,111 nos. plants vide order dated 01.05.2024 and further on dated 04.06.2024 against the review petition.

3.33. From the above tenders Six (6) plants from TN-25, 36, 48, 49 & 57 were such where Bidder submitted their acceptance on counteroffer rates, offered by Discom after scheduled date of submission. As such on regard of General Elections, Model code of Conduct was imposed from 16.03.2024 to 04.06.2024. Further, considering the MNRE orders for the non-exemption of DCR for solar cell and Solar Modules after 31.03.2024, bidders were again requested to provide their acceptance on earlier discovered counter offer rates. Thus, overall process of finalisation above six (6) plants was delayed. The details of six(6) nos. of plants is as below:-

S. No.	Tender No.	Circle	Division	33/11 kV Substation	Plant Name	Bidder Name	SPV Capacity (MW)	CFA (Rs. Cr)
1	TN-25	Jodhpur DC	Bilara	Ratkuriya	Plant No. 01 (Ratkuriya)	Ramjeevan Choudhary	2.52	0.32
2	TN-36	Churu	Sardhasahar	Pulasar	Plant No.01 (Pulasar)	Saraf Export Palace	2.52	1.19
3	TN-48	Jodhpur DC	Balesar	Natharau	Plant No.2(Sadulnagar NathRAU)	Rathore Filling Station	2.52	0.84
4	TN-49	Jodhpur DC	Bilara	Malalwas	Plant No.1 (Malalwas)	Ram Chander Jalwania	0.52	0.54
5	TN-57	Bikaner DC	DD2, Bikaner	Shekhsar	Plant No.1 (Karnisar AG)	Sangam Developers	2.52	1.15
6	TN-57	Bikaner DC	DD2, Bikaner	shekhsar	Plant No.2 (Sui AG)	Eco Tech & Engineering	2.52	1.06

**Modalities considered by JdVVNL for Solar PV plant wise Levelized Tariff Computation under for 6 no of plants under Tnder no. 25,36,48,49 &57 of PM-KUSUM Component-C (Feeder Level Solarization):**

3.34. The Petitioner computed solar PV plant wise levelized tariff in line with the MNRE guidelines for Component-C (FLS), RERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020' and RERC (Terms and Conditions for Determination of Tariff) Regulations, 2019'.

3.35. The Petitioner while arriving at the capital cost has considered the prevailing market trends including inputs received from solar module manufactures, vendors, bidders during negotiation meetings held by JdVVNL/ other discoms for determination of total project cost.

3.36. Since, all the solar PV plants are of different capacity, the Petitioner has computed the capital cost of each solar PV project comprising of Variable and Fixed component.

3.37. The variable component comprises of cost components which increases proportionately with increase in plant size and hence, defined in Rs. Crores Per MW:

Parameters	Ex-works	Applicable GST (@13.8%)**	Total
Total module cost *	2.28	0.31	2.59
BoP and Civil cost (assumption and based on market prevailing rates*)	0.95	0.13	1.08
Grid connectivity charges (@ Rs. 2.5 lakhs per MW as per Regulation 89 of RERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations 2020)	0.03	-	0.03
Other cost (Legal, Contingency, Liason, land development) *	0.05	-	0.05
Total (Rs. Cr)	3.31	0.44	3.75

\*As per prevailing market rate & inputs received from bidders

\*\* As per Ministry of Finance notification dated 22.12.2018 and 30.09.2021 of MNRE

3.38. The fixed component comprises of cost components which are fixed in nature irrespective of plant size, but linked to connectivity voltage level and hence, defined in Rs. Crores:

(i) For 11kV level connectivity (for solar PV plants upto 2.55 MW):

Parameters	Ex-works	Applicable GST (@13.8%)	Total
Cost of 11kV connecting line (5 kms)^	0.15	0.02	0.17
Metering system cost ^ - Plant level (main, check, standby)	0.04	0.01	0.05
Breakers cost (both ends of line)	0.10	0.01	0.11
Total	0.29	0.04	0.33

^ As per SoR of Rajasthan Discom

(ii) For 33kV level connectivity (for solar PV plants above 2.55 MW):

Parameters	Ex-works	Applicable GST (@13.8%)	Total
Cost of 33kV connecting line (5 kms)^	0.53	0.07	0.60
Metering system cost ^ - Plant level (main, check, standby)	0.04	0.01	0.05
Breakers cost (both ends of line)	0.20	0.03	0.23
Total	0.77	0.11	0.87

^ As per SoR of Rajasthan Discom

3.39. Petitioner has considered the following parameters for solar PV projects:

S.No.	Particulars	Value
1.	Useful life	25 years Reg 2.1 of the RERC RE Tariff Regulations, 2020
2.	Debt Equity Ratio	70:30 (Reg 16.1 of the RERC RE Tariff Regulations, 2020)
3.	Capacity Utilization Factor	19% without any derating factor (i.e. fixed for 25 years)(MNRE clarification dated 7.02.2022) & MNRE comprehensive guidelines dated 17.01.2024
4.	Loan Tenure	14 years (Reg 17.1.1 of the RERC RE Tariff Regulations, 2020 and MNRE guidelines)
5.	Interest Rate	12% per annum based on feedback and challenges soft loans by farmers/solar power project developers under KUSUM Scheme
6.	Depreciation	4.67% per annum for first 15 years and remaining depreciation shall be spread over the remaining useful life of the project considering the salvage value of the project as 10% of the project cost (Reg 18.3 of the RERC RE Tariff Regulations, 2020)
7.	Return on Equity	16.47% with current rate of 15% MAT for the entire useful life (Reg 19.2 of the RERC RE Tariff Regulations, 2020)
8.	Interest on Working Capital	As per Part-III of the RERC RE Tariff Regulations, 2020 (Reg 20.1)
9.	O& M expenses:	The annual O&M cost @ Rs. 5 lakhs per MW with an annual escalation of 3.84%. (Reg 21.2 & 31.1 of the RERC RE Tariff Regulations, 2020)
10.	Annual cash flow Discounting Rate	10%

11.	Degradation Factor	2% (for 2nd year) and 0.5% (from 3rd year onwards) as per the prevailing technical norms / manufacturer's Guaranteed Technical Parameters (GTP) and inputs received from bidders
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**Remote Monitoring System (RMS) for Solar PV project:**

3.40. According to the MNRE guidelines dated 04.12.2020 for PM-KUSUM Component-C feeder level solarization RMS is mandatory and the Petitioner has considered the following associated costs with Remote Monitoring System (RMS) for computation of levelized tariff:

- a) Fixed cost: Rs. 75,000 per system with provision for replacement every 8 years (based on market prevailing rates and inputs received from bidders).
- b) Recurring cost: Rs. 100 per month towards internet connectivity for the RMS system.

**Central Financial Assistance (CFA) from MNRE:**

3.41. As per MNRE guidelines dated 04.12.2020 for PM-KUSUM Component C feeder level solarization:

*"... The developer will get CFA @ 30% of the estimated cost of installation of solar power plant i.e. Rs. 1.05 Cr/MW (30% of Rs. 3.5 Cr/MW)..."*

3.42. Also, in line with scheme guidelines, the CFA has been calculated on the basis of per HP annual consumption (1451 units) or calculated on the basis of SPV capacity (80% of Power Transformer Capacity), whichever is less.

**3.43. Land Lease Rent (as per SKAY modalities)**

The Petitioner has considered the annual land lease rent as per following schedule (duly approved by Govt. of Rajasthan) with provision of 5% escalation every two years.

<b>Prevailing DLC rate of Land at the time of registration (Rs. per hectare)</b>	<b>Annual Lease Rent (Rs. per hectare)</b>
Upto 8 lakhs	80,000
More than 8 lakhs and less than 12 lakhs	1,00,000
More than 12 lakhs and less than 20 lakhs	1,40,000
More than 20 lakhs	1,60,000

**Impact of variation in Plant capacity, CFA and lease rent on levelized tariff:**

3.44. There is significant variation in individual plant capacity, applicable CFA and lease rent for the 6 nos. Solar PV plants for which bids have been received by JdVVNL under Tender Nos-25,36,48,49 & 57. Therefore, it is imperative that impact of these factors are given due consideration which evaluating the plant wise levelized tariff.

**a. Impact of variation in Solar Power Plant Capacity**

3.45. As already highlighted in the 'Capital Cost' part, the complete project cost of a Solar PV project has two components (variable and fixed). Owing to decrease in per MW fixed component, decreasing trend in levelized tariff is followed with increase in Solar PV plant capacity.

**b. Impact of variation in applicable CFA**

3.46. The Petitioner has observed a negative correlation between levelized tariff and CFA per MW and every Rs. 10 lakhs decrease in applicable CFA for a solar PV power project results in increase of Rs. 0.066 per unit in the levelized tariff.

**c. Impact of Annual Land Lease Amount**

3.47. The Petitioner has observed following impact of annual lease rent as per SKAY modalities on the levelized tariff:

Prevailing DLC rate of Land at the time of registration (Rs. per hectare)	Annual Lease Rent (Rs. per hectare)	Impact on levelized tariff (Rs. per unit)
Upto 8 lakhs	80,000	0.11
More than 8 lakhs and less than 12 lakhs	1,00,000	0.14
More than 12 lakhs and less than 20 lakhs	1,40,000	0.20



More than 20 lakhs	1,60,000	0.23
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3.48. As per Ministry of Finance, Government of India notification No. 8/2021-Integrated Tax (Rate) dated 30.09.2021, applicable GST on Solar Modules & Solar Inverters has increased from 5% to 12%. This has resulted in significant increase in overall project cost and thus, the levelized tariff of a solar PV plant.

3.49. With due consideration, the competent authority of JdVVNL negotiated on the quoted levelized tariff with the bidders within the computed levelized tariff range of 'without lease rent' and 'with maximum lease rent'.

3.50. As a result of above, following status was the outcome under these tenders –

Under these TN- 25, 36, 48, 49 & 57 for 6 nos. of Solar PV projects, the respective single bidder / L1 bidder, agreed on a reduced levelized tariff offered after the negotiation meeting. Solar PV plant wise final accepted levelized tariff for these TNs is shown below:-

S. No.	Tender No.	Circle	Division	33/11 kV Substation	Plant Name	Bidder Name	SPV Capacity (MW)	CFA (Rs. Cr)	Final levelized tariff (Rs. / unit)	No. of Ag Consumers
1	TN-25	Jodhpur DC	Bilara	Ratkuriya	Plant No. 01 (Ratkuriya)	Ramjeevan Choudhary	2.52	0.32	3.421	47
2	TN-36	Churu	Sardhsahar	Pulasar	Plant No.01 (Pulasar)	Saraf Export Palace	2.52	1.19	3.191	174
3	TN-48	Jodhpur DC	Balesar	Natharau	Plant No.2(Sadu Inagar Nathrau)	Rathore Filling Station	2.52	0.84	3.283	122
4	TN-49	Jodhpur DC	Bilara	Malawas	Plant No.1 (Malawas)	Ram Chander Jalwania	0.52	0.54	3.032	89

5	TN-57	Bikaner DC	DD2, Bikaner	Shekhsar	Plant No.1 (Karnisarag)	Sangam Developers	2.52	1.15	3.201	167
6	TN-57	Bikaner DC	DD2, Bikaner	Shekhsar	Plant No.2 (Suiag)	Eco Tech & Engineering	2.52	1.06	3.225	154

3.51. In view of above, in line with RfS document and as per Section 63 of Electricity Act, 2003, the petitioner prayed for approval of the above Solar PV plant wise levelized tariff for the projects under various tenders of Component C of PM-KUSUM scheme, which has been discovered through the transparent competitive bidding process of MNRE guidelines and the Rajasthan Transparency in Public Procurement Rules, 2013.

**Additional Information submitted by the Petitioner on 02.09.2024 and 04.09.2024:**

3.52. Petitioner submitted that under the TN-4 to TN-66, in all 2158 number of SPV plants applied for. In the negotiations on 27.02.2024, 06.03.2024, 12.03.2024, 14.03.2024, 15.03.2024 and 1111 accepted the counter offer and in respect to them a petition was also filed which has been allowed by the Commission on 01.05.2024.

3.53. The date wise details as directed by the Commission during hearing held on 22.08.2024 in respect of the bidders included in the present petition are mentioned as below :

**TN-DSM-25:**

3.54. Petitioner submitted that the first counter price offer letter was sent to Sh. Ramjeevan Chaudhary on dated 01.03.2024 with request to respond for acceptance/non-acceptance of counter offered price up to 05.03.2024. Sh. Ramjeeven Choudhary did not respond within scheduled date & time and further, he accepted counter offered price on 21.03.2024 after imposition of MCC (General Election) on 16.03.2024. As per the decision of Corporate Level Procurement Committee (CLPC)

held on dated 29.05.2024, a counter offer letter was again given to Sh. Ramjeevan Choudhary on 05.06.2024 with request to respond for acceptance/non-acceptance of counter offered price up to 11.06.2024 with DCR panel. Sh. Ramjeevan Choudhary had given acceptance of counter-offered price on 11.06.2024 and Lol was placed upon him on 25.06.2024.

**TN-DSM-36:**

3.55. Petitioner submitted that the first counter price offer letter was sent to Saraf Export Palace on dated 12.03.2024 with request to respond for acceptance/non-acceptance of counter offered price up to 14.03.2024. Saraf Export Palace did not accept counter offered price within scheduled date & time and asked for justification and he was informed as "Non-responsive" on dated 23.03.2024. He accepted counter offered price on 30.03.2024 after imposition of MCC (General Election) on 16.03.2024. As per the decision of CLPC held on dated 29.05.2024, counter offer letter was again given to Saraf Export Palace on 05.06.2024 with a request to respond for acceptance/non-acceptance of counter offered price up to 11.06.2024 with DCR Panel. Saraf Export Palace had given acceptance of the counter-offered price on 11.06.2024 and Lol was placed upon him on 25.06.2024.

**TN-DSM-48**

3.56. Petitioner submitted that a negotiation meeting was held on 15.03.2024 for TN-DSM-48, in which L-1 bidder regretted the counter offered price for plant no. 44. Thenafter, a counter offer price letter was sent to L-2 bidder on 15.03.2024 with a request to respond up to 16.03.2024 and he also regretted on dated 30.03.2024. Due to imposition of MCC of General Election, no counter offer letter was sent to L-3 bidder- M/s Rathore Filling Station. As per decision of CLPC held on 29.05.2024, a counter offer letter was given to M/s Rathore Filling Station on 05.06.2024 with a request to respond for acceptance/non-

acceptance of counter offered price up to 11.06.2024 with DCR panel. M/s Rathore Filling Station had given conditional acceptance of counter-offered price on 07.06.2024. Further, he had given unconditional acceptance on 08.06.20234 for which Lol was placed upon him on 25.06.2024.

#### **TN-DSM-49**

3.57. Petitioner submitted that a negotiation meeting was held on 16.03.2024 for TN-DSM-49, in which Sh. Ram Chandra Jalwaniya regretted the counter offered price but after then, he sent his acceptance on 22.03.2024. As per the decision of CLPC held on 29.05.2024, a counter offer letter was again given to Sh. Ram Chandra Jalwaniya on 05.06.2024 with request to respond for acceptance/non-acceptance of counter offered price up to 11.06.2024 with DCR panel. Sh. Ram Chandra Jalwaniya had given acceptance of counter-offered price on 10.06.2024 and Lol was placed upon him on 25.06.2024.

#### **TN-DSM-57**

3.58. Petitioner submitted that a negotiation meeting was held on 21.03.2024 for TN-DSM-57, in which L-1 bidder UIUX Design Lab was informed about insufficient MAAT furnished with bid documents and it was requested to furnish K-10 format, as per requirement of the bid documents, to ascertain the eligibility for the quoted capacity of plants, but the firm has not provided. Thereafter, as per direction, vide letter dated 22.03.2024, firm was intimated again to furnish the required Minimum Average & Annual Turn over (MAAT) documents as per requirement latest up to 26.03.2024. The firm requested to give time up to 28.03.2024. The document furnished and submitted on dated 28.03.2024 by the UIUX Design Lab, were found insufficient to ascertain the eligibility of the bidder, as per requirement of the bidding

documents and therefore, offer of the L-1 bidder for both plants has been ignored. However, against both these plants, L-2 bidders are available. As per decision of CLPC held on dated 29.05.2024, Counter offer price letters were sent to available L-2 bidders M/s Sangam Developers for plant no. 12 and to M/s Eco Tech & Engineering for plant no. 13 on dated 05.06.2024 with a request to respond for acceptance/ non acceptance of counter offered price up to 11.06.2024 with DCR panel. Both of the L-2 bidders had given unconditional acceptance on dated 10.06.2024 for which individual Lol were placed on dated 25.06.2024.

3.59. Petitioner submitted that the counter offer was accepted after the Model Code of Conduct (MCC) as well as thereafter, again counter offer was given in respect to the requirement of DCR modules which again has been accepted by all the bidders, therefore the present petition was filed to achieve the goal under 'KUSUM' scheme.

3.60. It is also submitted by the Petitioner that they have negotiated on the quoted levelized tariff with the bidders within the computed levelized tariff range of 'without lease rent' and 'with maximum lease rent' and other modalities as referred in their petition and further the respective successful bidder, agreed on a reduced levelized tariff offered during counteroffer by Discom which is market aligned and further they have agreed the condition of DCR.

3.61. Petitioner requested to admit and approve the petition for approval of the levelized tariff of 6 nos. of Solar PV plants with total aggregated capacity of 13.12 MW of Solar PV Plant for period of 25 years under Component C (feeder level solarization) of PM KUSUM scheme.

**Prayer of the Petitioner:**

3.62. In view of the above submission, the petitioner prayed the Hon'ble Commission as under:

List of plants with accepted tariff is as below:

S. No.	Tender No.	Circle	Division	33/11 kV Substation	Plant Name	Bidder Name	SPV Capacity (MW)	CFA (Rs. Cr)	Final levelized tariff (Rs. / unit)	No. of Ag Consumers
1	TN-25	Jodhpur DC	Bilara	Ratkuriya	Plant No. 01 (Ratkuriya)	Ramjeevan Choudhary	2.52	0.32	3.421	47
2	TN-36	Churu	Sardharsahar	Pulasar	plant no.01 (pulasar)	Saraf Export Palace	2.52	1.19	3.191	174
3	TN-48	Jodhpur DC	Balesar	Natharau	plant no.2(sadulnagar nathrau)	Rathore Filling Station	2.52	0.84	3.283	122
4	TN-49	Jodhpur DC	Bilara	Malalwas	Plant no.1 (Malalwas)	Ram Chander Jalwania	0.52	0.54	3.032	89
5	TN-57	Bikaner DC	DD2, Bikaner	Shekhsar	Plant no.1 (Karnisarag)	Sangam Developers	2.52	1.15	3.201	167
6	TN-57	Bikaner DC	DD2, Bikaner	Shekhsar	Plant no.2 (Sui ag)	Eco Tech & Engineering	2.52	1.06	3.225	154

- (1). To admit and approve the petition for approval of the levelized tariff of 6 nos. of Solar PV plants with total aggregated capacity of 13.12 MW of Solar PV Plant for period of 25 years under Component C (feeder level solarization) of PM-KUSUM scheme;
- (2). To condone any error/omission and to give opportunity to rectify the same;
- (3). To permit the Petitioner to make further submission, additions and alterations to this Petition as maybe necessary from time to time;
  - a. To permit the Petitioner to make further submission, additions and alterations to this Petition as maybe necessary from time to time;
  - b. To pass any such other order/s and/or direction/s, which the Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.
  - c. To allow the petitioner to proceed with awarded work subject to approval of tariff from Hon'ble RERC.

### **Commission's view:**

4. We have considered the submissions made on behalf of Petitioner.
5. The present Petition has been filed under Section 63 (Determination of Tariff By Bidding Process) of The Electricity Act 2003, Read With Regulation 19 And 21 of RERC (Transaction of Business), Regulations, 2021, for approval of levelized tariff discovered through transparent competitive bidding carried out by JdVVNL For Solar Power Projects under Component-C (Feeder Level Solarization) of PM-KUSUM Scheme under TN-25, 36, 48, 49 & 57.
6. Saur Krishi Ajivika Yojna (SKAY) platform launched by Govt of Rajasthan is a dedicated platform for farmers / land owners and solar power developers to address 'land identification, its procurement and associated cost' related challenge and to boost decentralized distributed solar generation under PM-KUSUM Component-C (Feeder Level Solarization).
7. The developed portal acts as a facilitator where interested farmers / land owners and solar power plant developers can collaborate to arrange land for a solar power plant on RESCO mode in the vicinity (preferably within 5 KMs radius) of identified 33/11 kV substations of Rajasthan Discoms as envisaged under PM-KUSUM Component-C (Feeder Level Solarization).
8. As per scheme guidelines, feeder level solarization under Component-C of PM-KUSUM, the provision under Central Financial Assistance (CFA) is limited to solar capacity for 7.5 HP pumps. However, as per RfS, the CFA has been calculated on basis of per HP annual consumption (1451 units) or calculated on basis of SPV capacity (80% of Power Transformer Capacity), whichever is less.
9. JdVVNL floated 63 nos. tenders (TN-04 to TN-66) covering 2158 nos. solar PV power plants with total capacity of 5744.58 MW (against 2158 nos.

of SPV plants) to be installed in the vicinity of 1640 nos. of 33/11 kV Substations having 2,77,792 nos. connected agriculture consumers for the purpose of setting up grid connected solar power plant to meet the annual power requirement of feeders using solar energy.

10. On 01.05.2024, Commission approved levelized tariff for 1111 Nos. of Solar PV Plants for 25 years for the projects of feeder level solarization under Component C of PM-KUSUM Scheme. Further on request of JdVVNL for review of above order against typographical mistake in plant name/ capacity/CFA/levelized tariff in 38 Nos Plants out of 1111 Nos of plants, Commission further approved on 4.06.2024.
11. According to the Petitioner, from the above tenders, Six(6) plants from TN-25, 36, 48, 49 & 57 were such where Bidders submitted their acceptance on counteroffer rates, offered by the petitioner after scheduled date of submission. As such on regard of General Elections, Model code of Conduct ('MCC') was imposed from 16.03.2024 to 04.06.2024. Further, considering MNRE orders for the non-exemption of DCR for solar cell and Solar Modules after 31.03.2024, bidders were again requested to provide their acceptance on earlier discovered counter offer rates. Thus, overall process of finalisation above six (6) plants was delayed.
12. The details of Six(6) nos. of plants is as below:-

S. No.	Tender No.	Circle	Division	33/11 kV Substation	Plant Name	Bidder Name	SPV Capacity (MW)	CFA (Rs. Cr)	Final levelized tariff (Rs. / unit)	No. of Ag Consumers
1	TN-25	Jodhpur DC	Bilarda	Ratkuriya	plant no. 01 (Ratkuriya)	Ramjeevan Choudhary	2.52	0.32	3.421	47
2	TN-36	Churu	Sardharsahar	Pulasar	plant no.01 (Pulasar)	Saraf Export Palace	2.52	1.19	3.191	174
3	TN-48	Jodhpur DC	Balesar	Natharau	plant no.2(Sadulnagar nathrau)	Rathore Filling Station	2.52	0.84	3.283	122



4	TN-49	Jodhpur DC	Bilara	Malawas	plant no.1 (Malawas)	Ram Chander Jalwania	0.52	0.54	3.032	89
5	TN-57	Bikaner DC	DD2, Bikaner	Shekhsar	plant no.1 (Karnisarag)	Sangam Developers	2.52	1.15	3.201	167
6	TN-57	Bikaner DC	DD2, Bikaner	Shekhsar	plant no.2 (Sui ag)	Eco Tech & Engineering	2.52	1.06	3.225	154

13. In view of above, in line with RfS document and as per Section 63 of Electricity Act, 2003, the petitioner has prayed for approval of Solar PV plant wise levelized tariff for the projects under Component-C of PM-KUSUM scheme, which has been discovered by them through the transparent competitive bidding process of MNRE guidelines and the Rajasthan Transparency in Public Procurement Rules, 2013.
14. It is noted that the Petitioner has also submitted Solar PV plant wise final accepted levelized tariff for TN-25, 36, 48, 49 & 57. Petitioner has prayed for approval of the levelized tariff of 6 nos. of Solar PV plants with total aggregated capacity of 13.12 MW of Solar PV Plant for period of 25 years under Component C (feeder level solarization) of PM-KUSUM scheme;
15. It is noted from petitioner's submission that they have negotiated on the quoted levelized tariff with the bidders within the computed levelized tariff range of 'without lease rent' and 'with maximum lease rent' and other modalities as referred in their petition and further the respective successful bidder, agreed on a reduced levelized tariff offered during counteroffer by Discom which is market aligned. The bidders have further agreed with the condition of DCR.
16. As the Discoms have filed the petition under section 63 of the Electricity Act, 2003 for approval of tariff discovered through transparent competitive bidding process, accordingly, in this order, Commission has considered the tariff discovered during the bidding process and recommended by the Petitioner Discom for adoption.

17. Further, in line with directions given earlier, all the Discoms are directed that they should ensure domestically manufactured panels and indigenous modules through inspection and verification at the manufacturing unit of the respective OEM as per the MNRE order for all tenders under consideration, wherever applicable. Further, Discoms are directed that while issuing work order/PPA ensure that the liability of 'change in Law' may not arise for them on this account. Also, in case of any refund/ benefit arises on account of the 'change in Law' then also Discoms should also claim the same promptly. Considering the experience gained by the Discoms so far, pricing trends and the requirement of approaching the Commission for adoption of tariff after each bid, the Commission had discontinued the practice of specifying ceiling tariff. It is once again directed that based on the prevalent prices trends, Discoms should do the rate analysis at their own level for every tender and conduct bidding through transparent bidding mechanism (as mandated by MNRE). Also, Discoms, after all due diligence, if satisfied that the discovered rates are reasonable and market aligned, they may approach the Commission for adoption of the tariff.
18. Based on the information submitted by the Petitioner in the various petitions filed by them in the matter and comprehensive guidelines issued on 17.01.2024 for implementation of PM-KUSUM Scheme. Discoms are once again directed to explore the possibility of awarding tenders where multiple substations may be grouped as one bidding group and SPDs may be permitted to quote the tariff common for all projects under one group and SPD may sign a single PPA with Discom. In addition, Discoms are also directed to study the experience and best practices of other States in this regard so as to further accelerate the implementation of the scheme and also to discover a lower tariff.

19. Further, Commission in its various orders has stressed the need for integrating more and more distributed power. If schemes like KUSUM Component-C (feeder level solarization) are implemented in the right earnest by the Discoms, it can prove to be a game changer for the sector as a whole. However, with large number of such plants certain system studies may also be required to be undertaken and need for storage and other balancing measure may arise. In this regard, the Commission has also earlier directed the Discoms to carry out necessary system studies in this light. Petitioner has also submitted the compliance report in this regard, it is already in process of carrying out system studies / load flow studies at some of the 33/11 kV Sub-stations where solar PV capacity are already commissioned in order to ensure proper integration of these systems with the network and also for optimum utilization of network. It is observed that as more and more plants are likely to come on line, the requirement of such studies would increase. In order to ensure smooth integration of such plants, Discoms are once again directed they continue to conduct the necessary system studies for such plants.
20. It is also observed that Discoms have received additional sanction of 1,00,000 nos of agriculture pumps from MNRE for whole Rajasthan State. Commission has been approving the tariff of the solar PV projects under PM KUSUM Component-C, however, the Discoms have not reported the status of implementation in the field. It is, therefore, directed that the Discoms should also report the progress of the implementation of the projects approved by the Commission under Component-C while filing the petitions in future in the matter.
21. It is also noted that in their additional submission petitioner has declared that respective suggesful bidders agreed on reduced levelized tariff offered during counteroffer by Discom which is market aligned and further, bidders have also agreed the condition of DCR.

22. Accordingly, looking to the submissions of the Petitioner, the Commission orders as under:

- (1) The Commission approves the purchase of power from six(6) nos. of solar PV plants in TN-25,36,48,49 &57 of solar PV plants as prayed as per para 12 above for 25 years under Component-C of PM KUSUM Scheme.
- (2) Discoms should carry out system studies/load flow studies, if needed, to ensure proper integration of these systems with the network and also for optimum utilization of network.
- (3) For future bids, Discoms should continue to do the rate analysis at their own level for every tender and conduct bidding through transparent bidding mechanism (as mandated by MNRE) and if the Discoms after all due diligence are satisfied that discovered rates are reasonable and market aligned, they may approach the Commission for adoption of the tariff.
- (4) Discoms should also explore the possibility of bidding for multiple substations grouped as one bidding group to discover a lower tariff for benefit of end consumers.
- (5) Discoms are advised to preferably select the feeders where maximum CFA from the Gol may be availed so that benefit of lower tariff can be achieved.
- (6) Discoms are directed to ensure that the condition of Domestic content requirement is followed as per the MNRE, orders wherever applicable. Also, while issuing work order /signing of PPA, Discoms are directed to ensure that no liability arise for 'Change in Law' on account of DCR and in case of any benefit/refund arises of 'Change in Law' on this account the Discom should also recover the same promptly.

- (7) In addition, Discom will continuously monitor the change in law events and will ensure timely recovery/ payment on account of change in law events as per the law.
- (8) Discoms should furnish the progress of implementation of the projects under Component-C in the petitions to be filed by them in future in the matter.
- (9) Discoms should follow the guidelines and directions issued by MNRE in respect of implementation of Feeder Level Solarisation under Component-C of PM KUSUM Scheme from time to time.

23. Copy of this order may be sent to all Discoms.

24. The Petition is disposed of accordingly.

(Dr. Rajesh Sharma)  
Member

(Hemant Kumar Jain)  
Member