

Further, under Net-billing arrangement, it should be the discretion of the Distribution Licensee to enter into EPA or not, as average Power Procurement Cost (APPC) which would be constant for entire period of EPA is much higher than the purchase cost of the Solar RE available in the market. In case the Commission is in favour of making it compulsory for the Distribution Licensee to enter into EPA then the tariff should be as per the Regulation 7.3 of RE Tariff Regulations, 2019.

Commission's Ruling:

Scope of this proceedings is limited to notification of generic tariffs for Solar Roof-top PV and determination of variable charge for biomass and non-fossil-based co-generation projects for FY 2022-23. The issue flagged by TPC-D needs to be dealt in separate Petition. Accordingly, TPC-D is granted liberty to approach the Commission separately under relevant provisions of the EA-2003 with detailed justification.

(C) Issues related to Small Hydro and Mini Hydro Projects

14.6. Guidelines for applicability of tariff to Small Hydro Project having EPA but yet to be commissioned

Stakeholders Comments/Suggestions:

MSEDCL has submitted that it has signed PPAs with below mentioned Small Hydro Projects as per the RE Tariff Regulations 2015 which are not yet commissioned. As per the PPA the tariff applicable is as per the year of commissioning of the project. The details of such projects are as under:

Sr. No.	SHP Name	Project name	Capacity (MW)	Location	PPA Date
1	Sanjay B. Patil	Jambre	2	Kolhapur	29.03.2017
2	Shreehari Associates Pvt. Ltd	Mukane	1.45	Nasik	06.05.2015
3	Khare & Tarkunde Infrastructure Pvt Ltd	Purna	0.5	Amravati	06.03.2018
4	Wat-ere-source Technologies Pvt. Ltd.	Karwand	1.25	Dhule	27.06.2018
5	Sneus Hydro Pvt. Ltd.	Khadkwasla	1.2	Pune	21.08.2019

MSEDCL requested for guidelines regarding the applicable tariff to above projects.

Commission's Ruling:

The Commission observes that MSEDCL has pointed out an issue in implementation of EPAs under RE Tariff Regulations, 2015 regime under control period governed by RE

Tariff Regulations, 2019. However, concerned project developers are not party to the present proceeding. Principle of natural justice mandates hearing both parties which cannot be fulfilled in present case. Therefore, the Commission cannot address this issue in present proceeding. MSEDCL is at liberty to file separate Petition on this aspect as per the law by making these project developers party to those proceedings.

15. Notification of Generic Tariff for Rooftop PV:

15.1. The Regulation 64 of RE Tariff Regulations, 2019 specifies the provision for Technology-specific parameters for Utility-Scale Solar PV Power Projects and Solar Roof-top Project as under:

“64. Technological Aspects:

The norms specified under these Regulations shall be applicable for determination of project-specific tariff for Utility-Scale Solar PV Power Projects, using sunlight for direct conversion into electricity through Photo Voltaic technology as approved by MNRE:

Provided that for Solar Rooftop PV Power projects, the Generic Tariff shall be notified in accordance with the approach specified in Regulation 7.3.”

15.2. The Regulation 7.3 is reproduced under para 4 above which specifies three options for considering the latest tariff in order of priority. The Commission notes that none of the Distribution Licensee in the State has discovered tariff for procurement of energy from Rooftop PV projects through competitive bidding. Further, rates discovered in other States may not be exactly similarly placed in terms of subsidy component, any other tariff benefits or state specific conditions, which are not available in Maharashtra.

15.3. The Commission notes that presently Distribution Licensees are procuring surplus power under Net-Metering arrangement or all power generated by Rooftop PV under Net-billing arrangement as prescribed under MERC (Grid Interactive Rooftop Renewable Energy Generating Systems) Regulations, 2019. In this Regulation, it is stipulated that Distribution Licensee shall procure surplus power at the end of year under Net-metering arrangement at Generic Tariff approved by the Commission for that year. Whereas under Net-billing arrangement, Distribution Licensee has to enter into EPA at Average Power Procurement Cost (APPC) which would be constant for entire period of EPA. Thus, the Commission has to notify Generic Tariff for Rooftop PV which would be used for procurement of surplus energy at the end of financial year. APPC rate for entering into EPA under Net-billing arrangement would be based on power procurement approved in Tariff Order of respective Distribution Licensee.

15.4. As stated earlier, none of the Distribution Licensees in the State has discovered tariff for procurement of energy from Rooftop PV through competitive bidding. The Commission notes that under Net-metering arrangement it is expected that consumer will install

Rooftop PV for self-consumption only and would not have a planned surplus except for only a negligible unintended quantum, more due to climatic/weather factors. Provision of annual banking allowed under Net-metering arrangement would further reduce such surplus available at the end of financial year. Such surplus power procured by Distribution Licensee is used for meeting its Solar RPO. Distribution Licensees have option of meeting their Solar RPO by procuring energy from grid scale solar PV projects and Licensees in the State have already been exercising such option. Hence, the Commission deems it fit to use latest tariff rate discovered for Grid Scale Solar project as a Generic Tariff for procurement of surplus energy from Rooftop PV projects. The Commission notes that in its Order dated 3 December 2021 in Case No. 141 of 2021 has adopted tariffs quoted in the range of Rs. 3.00/kWh to Rs.3.05/kWh under ‘Mukhyamantri Saur Krishi Vahini Yojana’ from 2 to 10 MW capacity projects. Accordingly, the Commission hereby notifies Rs. 3.00/kWh as a Generic Tariff rate for procurement of surplus power at the end of financial year from Rooftop-PV projects for FY 2022-23. It is mandatory for Distribution Licensees to procure such surplus power at the end of financial year which would in any case be counted towards meeting their Solar RPO.

16. Notification of APPC rate:

16.1. Although, it is not required to notify APPC rate under RE Tariff Regulations and it can be computed based on Tariff Order of respective Distribution Licensee, for ease of understanding of various stakeholders, the Commission is representing the same in this Order. The Commission notes that RE Tariff Regulations, 2019 provide the definition of Average Power Purchase Cost (APPC) as under:

“2.1 (c) Average Power Purchase Cost” or “APPC” means the weighted average price at which the Distribution Licensee has purchased or is expected to purchase electricity (excluding procurement from RE sources and liquid fuel sources), including the cost of self-generation, if any, as approved by the Commission in the relevant Tariff Order or any other general or specific Order;

16.2. Thus, while determining APPC, procurement from renewable energy sources and liquid fuel sources needs to be excluded. Accordingly, Distribution Licensee wise APPC for FY 2022- 23 is given below:

Distribution Licensee	Tariff Order dated 30 March 2020	APPC excluding RE & Liquid Fuel Source for FY 2022-23 (Rs/kWh)
	Case No	
MSEDCL	322 of 2019	4.05
BEST Undertaking	324 of 2019	4.70
AEML-D	325 of 2019	4.25
TPC-D	326 of 2019	4.43
MBPPL	328 of 2019	4.07
KRCIPL	329 of 2019	3.92
GEPL	330 of 2019	3.95

APPC rate mentioned in last column of the above table shall be used by Distribution Licensee for entering into an EPA with Rooftop PV under Net-billing arrangement for project commissioned in FY 2022-23. Further such rate will be constant for entire period of EPA.

17. Variable charges of Biomass and Non-fossil fuel-based Co-generation Projects:

A. Price for Bagasse used in non-fossil fuel based Cogeneration Plant:

17.1. The Commission notes that for ascertainment of bagasse price, TERI has suggested following six (6) approaches and by application of 16.7% weightage to each approach has estimated price of bagasse:

Approaches	Bagasse cost (Rs/MT)	Weightage	Weighted cost
Coal equivalent method	2281	16.7%	380.1
Alternate fuel GCV equivalent method	1892	16.7%	315.3
Market rate of bagasse	2590	16.7%	431.7
Modified Split off cost	1608	16.7%	268
Preferential tariff method	1857	16.7%	309.5
Production cost method (UPERC + KERC)	790	16.7%	131.7
Average cost (Rs./ton)		100%	1836.3

17.2. The Commission notes that various stakeholders have expressed their reservations on approaches considered by TERI in its report. Further, during public hearing stakeholders have supplemented their arguments by relying on APTEL Judgements in Appeal No.199 of 2012 dated 4 September 2013 (*The South Indian Sugar Mills Association & Ors Vs Tamil Nadu Electricity Regulatory Commission*) and Appeal No. 229 of 2018 dated 2 August 2021 (*South Indian Sugar Mills Association Vs Karnataka Electricity Regulatory Commission*).

17.3. Major stakeholders such as CAI has pointed out that Regulation 56 of MERC RE Tariff Regulations,2019 mandates that the price of bagasse for the first year of the Project shall be determined based on the prevailing price of bagasse as assessed through an independent study. CAI in its submission advocated for market rate adoption approach and equated the prevailing price with market discovered rate.

17.4. The Commission finds that at present there is no data available for competitive procurement of bagasse. CAI has submitted invoices of bagasse procurement, but these are typically for a very quantity and hence cannot be considered as to conclusively arrive at the market price. Further, TERI in its report has considered Market rate as one of the approaches. The price of bagasse changes based on locality, season and quality of bagasse. Hence, restrictive reading of prevailing price of bagasse as market price is not appropriate.

The Commission notes that TERI in its report has rightly pointed out all the possible approaches (though few are under litigation) for ascertainment of bagasse price.

17.5. However, the Commission notes that Hon’ble APTEL in its judgment in Appeal No. 229 of 2018 dated 2 August 2021 (*South Indian Sugar Mills Association Vs Karnataka Electricity Regulatory Commission*) has referred to its earlier Judgement in Appeal No.199 of 2012 dated 4 September 2013 (*The South Indian Sugar Mills Association & Ors Vs Tamil Nadu Electricity Regulatory Commission*) which has clearly stipulated modalities to be followed by SERCs while giving considerations to fuel prices of bagasse/biomass-based projects. Relevant para of the Judgement reads as below:

“53. The State Commission is bound to be guided by the Central Commissions principles and methodology having regard to the local conditions in the State. Accordingly, the State Commission ought to have considered the equivalent heat value method and the market price of bagasse before deciding the price of bagasse.” (Emphasis added)

Considering above mandate, the Commission has decided to consider combination of equivalent heat value method and market price approach as explained below:

17.6. Equivalent Heat Value Method:

a. The Commission notes that CERC while computing fuel price has considered landed cost of coal for thermal Stations for respective States. Accordingly, as base fuel cost is to be determined for FY 2020-21, the Commission has decided to consider fuel cost approved for MSPGCL’s coal based thermal stations for FY 2020-21 in its MYT Order dated 30 March 2020 issued in Case No. 296 of 2019. Accordingly, relevant details are tabulated below:

Station/Unit	FY 2020-21		
	Landed Cost of Coal	GCV	Rs/Kcal
	Rs./MT	kcal/kg	
Bhusawal	4812	3890	1237.04
Chandrapur	3109	3624	857.81
Khaperkheda	3312	3494	948.04
Koradi	3805	3702	1028.09
Nashik	4276	3928	1088.56
Paras Units 3 & 4	3829	3450	1109.81
Parli Units 6 & 7	4749	3193	1487.55
Khaperkheda Unit 5	3438	3561	965.38
Bhusawal Units 4 & 5	4723	3669	1287.25
Koradi Units 8, 9 & 10	3335	3495	954.37
Chandrapur Units 8 & 9	3612	3748	963.51
Parli Unit 8	4697	3269	1436.78
Average			1114

- b. The Commission notes that while giving consideration to landed cost of coal, CERC nowhere mentions whether the stations under consideration are pit head stations or otherwise. In case of Thermal station cost of transportation and associated coal handling can be a significant component. It is evident from MSPGCL's MYT filing in Case No.296 of 2019, such costs are to the tune 18.11% to 26.75% of landed cost of coal.
- c. As against coal which needs to be transported from coal mines to plant location, bagasse is generated within the factory premises and utilized in the Cogen unit. In such scenario transportation cost is not involved in case of bagasse. Therefore, coal cost of pit head thermal stations would have been appropriate for computing price of bagasse on heat equivalent method. Most of the plants in Maharashtra are non-pit head stations. Therefore, to factor local conditions, the Commission thinks it is appropriate to consider cost associated with coal only and not transportation.
- d. From Trued-up figures submitted by MSPGCL in its MYT Petition in Case No. 296 of 2019, it is evident that transportation cost works out to be 18.11% of Landed cost of coal. Accordingly following coal cost has been computed for Equivalent Heat Value Method

Particular	Rs/kcal (a)	GCV (b)	Landed Cost of bagasse on heat equivalent basis (c) = [(a) x (b)/1000]	Landed Cost of bagasse on heat equivalent basis less Transportation (d)= (c)-(18.11%(c))
FY 2020-21	1114	2250	Rs. 2507 / MT	Rs. 2053 / MT

17.7. Market Based approach:

- a. The Commission notes that TERI in its report amongst other approaches has also considered market-based approach for arriving at bagasse price and proposed bagasse price of Rs. 2590/MT on this approach. M/s. Cogeneration Association of India in its submission as one of the alternatives has suggested to accept the TERI Report to the limited extent and adopt the market price of Rs. 2590/MT mentioned therein.
- b. In this regard, the Commission notes that although TERI has suggested market-based approach as one of the approaches for arriving at the price of bagasse, TERI in its Report has also pointed out that most of bagasse is used internally by Cogen plant and there is no alternative market for bagasse.
- c. In view of above observation based on field survey undertaken by TERI, the Commission is of the opinion that restricting the methodology to the market-based approach cannot be used for arriving at price for bagasse.

17.8. Price of Bagasse:

- a. As stated above, due to insignificant or non-existence of market for bagasse, market-based approach cannot be used. Hence, in compliance with APTEL judgment, the Commission is using equivalent heat value method as explained in para 17.6 above.
- b. Further, it is also important to factor in possible impact of policy initiatives. The Commission notes that Govt. of India has mandated cofiring of biomass (bagasse is part of biomass) in coal based thermal stations. Such policy initiatives may increase demand for biomass including bagasse. At present there is no concrete data on the impact of this policy on the pricing of bagasse. However, the Commission is of the opinion that there is a possibility of atleast a limited impact on the pricing of bagasse and hence deems it appropriate to allow additional 10% increase in price arrived based on equivalent heat value method.
- c. Accordingly, final price of bagasse for FY 2020-21 is as follows:

Particulars	Bagasse Price (Rs/MT)
Price based on Heat equivalent Method (a)	2053
10% Increase (b)	205
Final Price of Bagasse (c = a + b)	2258

B. Price for biomass used in Biomass fired generation Plant:

17.9. As bagasse is subset of Biomass, the Commission deems it appropriate to extend the principle used for determination of bagasse price to Biomass. Accordingly, combination of heat equivalent method and market price is to be used for computing price of biomass.

17.10. Equivalent Heat Value Method:

- a. Unlike Bagasse, biomass is the commodity generated outside the electricity generating plant. Accordingly, transportation cost is substantial in case of biomass-based projects. Hence, landed cost of coal has been considered which is inclusive of transportation cost.
- b. Considering cost parameters for MSPGCL's stations as mentioned in Para 17.6, following coal cost has been considered for Equivalent Heat Value Method:

Particular	Rs/kcal (a)	GCV (b)	Landed Cost of biomass on heat equivalent basis (c) = [(a) x (b)/1000]
FY 2020-21	1114	3611	Rs. 4023 / MT

17.11. Market Based Approach:

- a. Unlike bagasse-based Cogen plant, biomass-based power plant has to procure biomass from farmer/other agencies. Also, the details (including the price) of procurement of

Biomass is available for a high quantity and hence market based approach is relevant for determining price of biomass.

- b. TERI in its report has mentioned that biomass consumption study has been performed for seven (7) plants and worked out average price of biomass to be Rs.3238 per Ton. The Commission notes that this price is determined based on actual data submitted by generating plants during the survey.
- c. Out of ten (10) bio-mass based units are operational in Maharashtra, survey covers Seven (7) plants. Therefore, fuel cost computed (Rs. 3238 per MT) by TERI based on data provided by these 7 plants can be considered as market price for biomass.
- d. Further, as stated in earlier part of this Order, biomass price needs to factor in impact of policy initiatives of cofiring of biomass in coal-based power plant. Hence, above market-based price recommended by TERI is increased by 10% and Rs. 3562 per MT and the same is considered for further determination of biomass price.

17.12. Price of Biomass:

- a. Based on above considerations final price of biomass for FY 2020-21 is assessed as below by allocating the equal weightages to Equivalent Heat Value Method and Market Price.

Particulars	Bagasse Price (Rs/MT)	Weightages	Weighted Price
Heat equivalent Method	4023	50%	2011
Market based approach	3562	50%	1781
Average Cost (Rs/MT)			3792

C. Variable cost for Biomass and non-fossil fuel-based Cogeneration plant:

17.13. MERC RE Tariff Regulations 2019 stipulated following formula for determination of variable charge for biomass-based power project:

“47.1 In the case of both existing and new Biomass-based Power Projects, the following indexing mechanism for adjustment of fuel prices for each year of operation will be applicable for determination of the variable charge component of tariff:

The Variable Charge for the nth year shall be computed as under:

$$VC_n = VC_1 \times (P_n / P_1)$$

where,

VC₁ represents the Variable Charge based on Biomass Price P₁ for first year as specified under Regulation 46, and which shall be determined as under:

$$VC1 = \frac{\text{Station Heat Rate (SHR)}}{\text{Gross Calorific Value (GCV)}} \times \frac{1}{(1 - \text{Auxiliary Consumption Factor})} \times P1 / 1000$$

P_n = Price per tonne of biomass for the *n*th year to be considered for tariff determination;

P_{n-1} = Price per tonne of biomass for the (*n-1*)th year to be considered for tariff determination;

P1 shall be the Biomass price for FY 2020-21 as specified under Regulation 46;

47.2 The Biomass fuel price shall be revised by the Commission taking into consideration the Biomass fuel price determined by the Central Commission, or a normative escalation factor based on an independent study by the Commission, or 5% per annum, as the Commission may consider appropriate.”

17.14. Similar formula has been stipulated in Regulation 57 of RE Tariff Regulations 2019 for computing variable charge for non-fossil fuel-based co-generation project.

17.15. Following parameters have been used in above stipulated formula for computation of variable charge:

Parameter	Source	Biomass Project	Non-fossil fuel based co-generation project
Station Heat Rate (SHR)	Regulation	4200 kcal/kWh	3600 kcal/kWh
Gross Calorific Value (GCV)	Regulation	3611 kcal/kg	2250 kcal/kg
Auxiliary Consumption Factor	Regulation	10%	8.50%
Fuel Price	As above	Rs. 3792 /MT	Rs. 2258 / MT
Escalation on fuel Cost	Regulation	5%	5%

17.16. By using above parameters in the formula stipulated in the Regulations, Variable Charges are determined as below:

Year	Biomass Project	Non-fossil fuel-based co-generation project
FY 2020-21	Rs. 4.90/kWh	Rs. 3.95/kWh
FY 2021-22	Rs. 5.15/kWh	Rs. 4.15/kWh
FY 2022-23	Rs. 5.40/kWh	Rs. 4.35/kWh

17.17. Now, as variable charges for FY 2020-21 to FY 2022-23 is determined through this Order, earlier levied provisional tariff need to be adjusted as per earlier Commission’s ruling in Order dated 1 April 2021 which is reproduced below:

“ 9. Therefore, in the interim, the Commission will continue with variable charges for Biomass and Non-fossil fuel- based Co-generation Projects as determined under RE

Tariff Order dated 30 April 2019 in Case No. 52 of 2019 on provisional basis. Post completion of the study by TERI, the Commission will initiate the Public Consultation Process providing participation opportunity to all the stakeholders to finalize the Prices of Biomass and Bagasse fuel in the State of Maharashtra. Any variation in variable cost so determined shall be applicable as a variable charge for FY 2020-21 and FY 2021-22 and shall be adjusted in subsequent bills.”

In view of above, Biomass based project and non-fossil fuel-based co-generation project has to reconcile the difference between provisional tariff levied till date and above determined tariff in their future bills. Accordingly, Distribution Licensee shall adjust the same through upcoming bills in six equal installments.

17.18. Further, the Commission also notes that although registration of transmission connected RE generating plant with Maharashtra State Load Despatch Center (MSLDC) has been made mandatory by the State Grid Code Regulations, still some of the plants have not registered themselves with MSLDC. Such registration is critical for secure and reliable grid operations. Even after repeated follow up with these RE generators, they are not complying with the mandate of registration. Hence, the Commission now has no other option other than directing MSEDCL to withhold payment of monthly bill amount of Cogen and Biomass plants covered by this RE tariff Order and who are yet to registered with SLDC as per requirement of Grid Code. In case these generators fail to register with SLDC within 2 months from date of this Order, from 3rd month onward, MSEDCL shall withhold 50% amount of their monthly bill towards supply of RE power at generic tariff and said withheld amount be paid without any interest once such generator registers himself with MSLDC. Normally, the Commission is not inclined to get in the issues pertaining to release of payments but in this case it is extremely concerned about ensuring secure and reliable grid operation. This action is necessitated for which the only alternative before the MSLDC would be to take coercive action of disconnection from the grid which needs to be avoided.

18. **Date of Applicability of RE Tariff Order:**

18.1. Previous RE Tariff Order was applicable till 31 March 2022. Tariff Order for FY 2022-23 is being issued through present Order after due public consultation process. Hence, there is need to provide clarity on the aspect of tariff applicable for the period of 1 April 2022 to date of this Order.

18.2. The Commission in draft Order published for public consultation through Public Notice dated 30 March 2022 has stipulated that this tariff Order will be applicable for FY 2022-23 with effect from 1 April 2022. Therefore, all stakeholders are well informed about applicability with effect from 1 April 2022.

18.3. Further, generic tariff for Rooftop Solar and APPC is just notification and not

determination of tariff. Same is clarified in draft Order itself. Hence, same can be easily made applicable from 1 April 2022. Further, in respect of variable charges for biomass and bagasse-based cogeneration plants, provisional charges have been approved till determination of changes in present proceeding with condition that variation in charges will be recovered from generator. Therefore, these stakeholders were also well informed about retrospective applicability of variable charges.

18.4. Hence, the Commission rules that Tariff rates notified in this Order shall be applicable for FY 2022-23 with effect from 1 April 2022. In respect of biomass and non-fossil based cogeneration plant, variable charges for FY 2020-21 and FY 2021-22 needs to be adjusted as ruled in para 17.17 above.

19. With the above dispensation, the Commission disposes of suo-motu case registered as Case No. 1/SM/2022.

Sd/-
(Mukesh Khullar)
Member

Sd/-
(I.M. Bohari)
Member

Sd/-
(Sanjay Kumar)
Chairperson


(Abhijit Deshpande)
Secretary



Appendix-1**List of Organisations/persons who submitted Suggestions and Objections**

Sr. No.	Name
1.	M/s. A.A.Energy Limited
2.	M/s. Maharashtra Vidhyut Nigam Pvt. Limited
3.	Maharashtra State Electricity Distribution Co. Ltd. Mumbai
4.	M/s. Maharashtra Rajya Sahakari Sakhar Karkhana Sangh Ltd.
5.	M/s. West Indian Sugar Mills Association
6.	The Tata Power Company Limited
7.	Western India Sugar Mills Association
8.	Manas Agro Industries & Infrastructure Ltd. (Unit 3)
9.	Manas Agro Industries & Infrastructure Ltd. (Unit 5)
10.	Shee Renuka Sugars Limited
11.	M/s. Maharashtra Biomass Energy Developers Association of India
12.	Cogeneration Association of India
13.	M/s. Maharashtra Energy Development Agency

Appendix-2**List of Organisations/persons at the Public Hearing held on 17 May, 2022**

Sr. No	Name
1.	Shri. Swapnil Agarwal , M/s. A.A. Energy Limited.
2.	Smt. Kavita Gharat , MSEDCL
3.	Shri. S.R. Nargolkar , Maharashtra Rajya Sahakari Sakhar Karkhana Sangh Ltd.
4.	Shri. S.R. Nargolkar , M/s. West Indian Sugar Mills Association
5.	Smt. Hawwa Inamdar , The Tata Power Company Limited
6.	Shri. S.R. Nargolkar , Western India Sugar Mills Association
7.	Shri. Nitin Mudholkar, Manas Agro Industries & Infrastructure Ltd. (Unit 3)
8.	Shri. Nitin Mudholkar, Manas Agro Industries & Infrastructure Ltd. (Unit 5)
9.	Shri. Kuldeep Kulkarni, Shee Renuka Sugars Limited
10.	Shri. Vijay Hiremath , M/s. Maharashtra Biomass Energy Developers Association of India
11.	Smt. Aarti Ranade , M/s. Maharashtra Biomass Energy Developers Association of India
12.	Smt. Vaidehi Naik, Cogeneration Association of India
13.	Shri. Shirish S Garud, TERI , New Delhi
14.	Shri. Nagendra Kumar, TERI , New Delhi