Proceedings of the Sensitization Workshop on ‘E-Waste Management Rules, 2022 Organised for the States of Regional Directorate, CPCB, Bengaluru Jurisdiction

Regional Directorate, Central Pollution Control Board, Bengaluru organized a sensitization Workshop on E-Waste Management Rules, 2022 for Southern States viz., Karnataka, Kerala, Goa and Lakshadweep on 12.09.2023 at Conference Hall, I Floor, CPCB, RD-Bengaluru. List of Participants is attached as **Annexure I**. Photographs taken during the awareness programme is given at **Annexure-II.**

Sh J Chandra Babu, Regional Director, CPCB, Bengaluru welcomed Dr V M Sheela, Member Secretary, Kerala SPCB, Sh Rudresh Murthy, EO, Karnataka SPCB, Expert Speakers, and participants (on line and off-line) from State Pollution Control Boards (Karnataka and Kerala), E-Waste Recycling associations. He informed the participants that, the program aims to enlighten the regulators from State Pollution Control Boards and recyclers of E-Waste about the provisions of E-Waste Management Rules 2022 and its amendments, newly developed EPR portal for producers and recyclers so as facilitate them to register on the portal of EPR.

Smt P K Selvi, Scientist E, CPCB, Bengaluru invited all the speakers for the technical session to discuss on different aspects of E-Waste Management viz., Rules and Regulations notified in 2022, RoHS compliance & test procedures, Cost Effective Li-ion Battery Recycling Technology developed by C-MET, Hyderabad, Global Recycling trends by MRAI, Recycling Technologies and Best Practices in Karnataka.

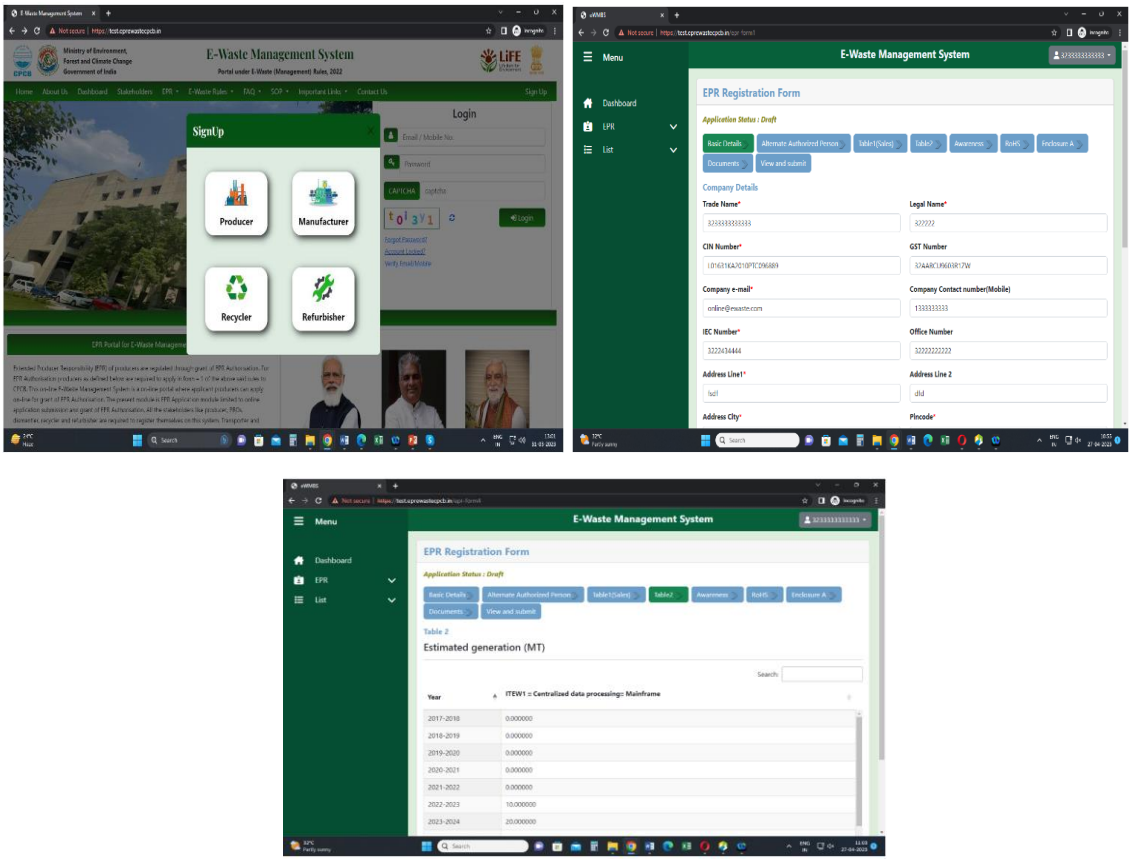
Sh Anand Kumar, Director & Head, WM-III Div., CPCB, Delhi made a brief presentation on aspects relating to generation of e-waste in India and stated

that the e-waste generation has increased from 1.02 MMT (Million Metric Tonnes) in 2019-2020 to 1.6 MMT in 2021-22 against the global generation of 53.6 MMT. He also made essence of E-Waste Management Rules, 2022 and he stated that E-waste management in India are regulated under E-Waste Management Rules, 2022 which supersedes E-Waste (Management) Rules, 2016. The latest rules lay down 106 types of EEE as compared to 21 types of EEE of the E-Waste Management Rules, 2016. The rules also cover Solar Phot-voltaic modules or panel or cells with no recycling target and only storage till 2034-35. Also he clarified that, dismantlers and dealers are covered under the purview of EPR registration under E-Waste Management Rules, 2022 and those industries carrying out size reduction / crushing operations have to be formalized into recycling category by concerned SPCB with verification. Importers of used EEE have 100 % EPR obligation for the imported materials after end of life, if not re-exported.

Though E-Waste Management Rules, 2016 introduced and mandated the concept of EPR for e-waste management, by defining the collection targets for brand owners and producers in order to properly channelize e-waste right from generation to till recycling/disposal in India, E-Waste generation is still overwhelming with introduction of wide spectrum of EEE products in the market with majority of WEEE leaking into the informal sector unaccounted. The E-Waste Management Rules, 2022 has provision for Audit, incentivising refurbishing, focus on recovery of material (EPR certificate based on end product), Ultimate responsibility on producers with imposition/collection of Environmental Compensation in case of violation.

Sh Tarun Darbari, Sc E, WM-III,CPCB, Delhi explained about the EPR portal for registration of E-Waste Producers and Recyclers through the online portal viz., https://eprewastecpcb.in.

IT Division, CPCB, Delhi demonstrated the Steps required to submit application seeking EPR registration certificate as a Producer (Fresh application) and Recycler online through EPR Portal-Producers and Recyclers Module.



In similar lines, E-Waste Recyclers were also instructed to get registered through EPR portal as per steps provided in the SOPs for E-Waste Recycler under E- Waste (Management) Rules, 2022. The recyclers were informed that, the units have to provide following documents for registration and the same will be verified by concerned SPCBs.

i. Documents to be attached.

a. Recycling capacity in terms of both raw material & product

b. Geotagged Video of the unit with all plant and machinery

c. Geotagged Pictures of the unit

d. Self-Declaration on submission of authentic data (as per template given at Annexure-I). The self-declaration will also include confirmation that adequate occupational safety/Health and fire safety measures have been taken in the plant. (On the company's letter head with signature of authorized person & company seal)

It was also clarified that the recycler will be provided registration on the basis of information provided by it in the EPR portal. Physical/virtual inspection of the recycling unit will be carried out either by Regional Directorate of CPCB/

SPCBs/PCCs within three months of grant of registration for verification. Also it was mentioned that the Central Pollution Control Board by itself or through a designated agency shall verify compliance of recyclers through inspection and periodic audit, as deemed appropriate and the actions against violations and for non-fulfilment of extended producer responsibility target, obligations and responsibilities shall be in accordance with the rule 24 of the E-Waste (Management) Rules, 2022. A recycler has to pay registration fee of Rs. 15000 for first time registration. For renewal it will be Rs. 7,500/- + Rs. 0.625/MT for quantity of EPR Certificate transaction in the preceding five years.

Dr U Rambabu, Scientist E, C-MET, Hyderabad, Ministry of Electronics and Information Technology, GoI presented on ROHS Compliance and Test Procedures. He informed that C-MET, Hyderabad laboratory has also established a state-of-the-art chemical testing facility for the analysis of electronic and related samples to help the industries and developed a mechanism to identify and quantify the substances banned under RoHS, Directive. This is the only RoHS testing facility in India established with Ministry of Electronics & IT (MeitY), Government of India financial support. C-MET has developed requisite infrastructure, state of the art characterization facility and Standard Operating Procedures (SOPs) as per IEC 62321:2012 standard. RoHS analysis of variety of samples are being carried out using advanced characterization techniques. This RoHS test facility is accredited as per ISO 17025:2005 standard by National Accreditation Board for Testing & Calibration Laboratories (NABL), Department of Science & Technology, Government of India, with certificate No: T-1780 in the field of chemical analysis of electronic materials (polymers, metals, etc.). He explained that the ROHS test procedures involve Non-Destructive Screening Methods using Compact Energy Dispersive X-Ray Fluorescence Spectroscopy (XRF) and destructive method with wet chemical analysis using ICP-MS/ICP-OES/CV-AAS/AAS.

Dr Amit Barnwal, C-MET, Hyderabad, Ministry of Electronics and Information Technology, GoI gave a presentation on 'Cost Effective Li-ion Battery Recycling Technology'. During his presentation, he mentioned that, with increased Electric Vehicles in the market recently, the need for recycling Li-ion batteries gained momentum and the C-MET technology will be a good intervention for the battery recyclers. The processing of discarded Li-ion battery to extract Lithium carbonate include neutralization, comminution, thermal

treatment. The thermal treatment has hydrometallurgical and pyro metallurgical methods. The technology will be transferred to the interested entrepreneurs with consultation on installation and operation in the field. C-MET Hyderabad has developed a process technology for the recovery of valuable and precious metals from spent printed circuit boards, which includes both hydrometallurgical and pyro metallurgical operations. The technology offered is environmentally safe which conforms to CPCB requirements and economically viable. The technology is demonstrated at laboratory level and semi pilot plant scale (100 kg/day) at C-MET Hyderabad. A demonstration plant established at C-MET, Hyderabad and the facilities are being extended to informal recyclers for processing of spent PCBs on chargeable basis.

Sh ALN Rao, Director, E-Waste Division, MRAI, Mumbai provided insights of global trend of growing electronic market and E-Waste management. He projected the need for quantification of plastic residues generated in E-Waste Sector and guidelines for E-Waste Management and EPR targets with additions of new EEE in Schedule I shall be revised in view of the technological advancements and other factors by the Steering Committee constituted with the approval of the Central Government.

Thereafter, the Recycling technologies and best practices being adopted by E-Parisaraa Private Limited and M/s Terranova Eco Management Private Limited, Nelamagla, Karnataka were presented.

Upon deliberations following suggestions were made: -

- Karnataka, Kerala, Goa SPCBs in the jurisdiction of Regional Directorate, CPCB, Bengaluru are required to ensure that the recyclers in the respective States would submit the applications seeking EPR registration and for which all such recyclers should be directed to ensure submission of their applications through EPR portal developed and launched by CPCB, with immediate effect.

- Producers and E-Waste Recyclers shall be allowed to operate only with the EPR registration obtained from CPCB

- Also interim arrangement for EPR credit certificate generation is made available by CPCB.

- While submitting the details through EPR Portal seeking EPR registration by the producers or recyclers through respective module, all the details furnished should be authentic and should be in line with the supporting documents obtained from concerned authorities

- Wherever integrated consent and authorisation is issued by the States, such document may be uploaded by the applicants seeking EPR Registan through Producers and Recyclers module as the case may be.

- The recyclers were also suggested to provide comments or views if any on the draft guidelines on Environmentally Sound Management of E-Waste already circulated by CPCB, Delhi, to examine and for consideration.

The meeting ended with thanks to all the Expert Speakers, Recyclers and all the officials participated physically in the awareness programme as well as through online.

-- OO --

Annexure I

List of Participants

Regulators

1.	Sh Anand Kumar, Director	CPCB, Delhi
2.	Sh J Chandra Babu, RD	Regional Directorate, CPCB, Bengaluru
3.	Smt. P K Selvi, Sc E	Regional Directorate, CPCB, Bengaluru
4.	Dr Sheela A.M, MS	Kerala SPCB
5.	Sh Tarun Darbari, Sc E	CPCB, Delhi
6.	Ms Bitsy B.S, EE	Kerala PCB
7.	Sh T Mahesh, CEO	KSPCB, Bengaluru (VC)
8.	Sh Rudresh Murthy, EO	EO, KSPCB, Bengaluru (VC)
9.	Smt Viji Karthikeyan, SEO	KSPCB, Bengaluru (VC)
10.	Sh K M Ramesh, EO	KSPCB (VC)
11.	Sh T Ramesh, EO	KSPCB (VC)

Speakers / Invitees

1	Dr Amit Barnwal, Research Scientist	C-MET, Hyderabad, MEiTY
2	Dr U Rambabu, Scientist E	C-MET, Hyderabad, MEiTY
3.	Sh ALN Rao, Director	E Waste Division, MRAI, Mumbai
4.	Sh Virender Kaul, Head Operation	E-Parisaraa, Bengaluru
5.	Sh Guha Jayaram,	TerraNova Eco Management Pvt Ltd., Bengaluru

Industry / E- Waste Recyclers

Sl No	Name of Officials	Organization Address with Mobile & Email
1	Smt Menaka Badiger (Customer Engagement Officer)	4 R Recycling Pvt Ltd Shell No.4-5 III stage Behind Bhatta Hotel Peenya Industrial Area Peenya 918028360599
2	Sukshima A.S EHS Department	4 R Recycling Pvt Ltd Shell No.4-5 III stage Behind Bhatta Hotel Peenya Industrial Area Peenya 917483800256 E-mail: recycle@4rrecycle.com
3	Ramesh M Assistant Manager	Resustainability Reldam Refining Pvt Ltd No.6 Laxmanpura, Thyamagondlu hobli, Nelamangala toll Bengaluru Rural -562132 9059896529

4	Dr. Krishnaraj V.P Director	E-Parisara Pvt Ltd Bh1/1 Peenya Industrial estate 3rd Stage Bengaluru
5	Dr. Keshav A	E-Parisara Pvt Ltd Bh1/1 Peenya Industrial estate 3rd Stage Bengaluru 9448771672 E-mail: kabwbule@gmail.com
6	Sh Govindaraju	GRKMS Pvt Ltd Bengaluru E-mail: graju@grkmsgmail.com 9551181155
7	Smt. P.S.Anitha Rani	GRKMS Pvt Ltd Bengaluru E-mail: Janani_govindaraju@grkms.com 9945121235/ 9880065500
8	Sneha. S	GRKMS Pvt Ltd Bengaluru E-mail: support@grkms.com 9980155556
9	Ramaswamy Terranova	E-mail: dk@terronova_eco.com 8826005192
10	M.D.N. Simha Ex.CEO KSPCB	E-mail: simhamdn@gmail.com 9483539494
11	Syed Faraz Ulla Director	Eco Bird Recycling Company Pvt Ltd 9945008827
12	Shabaz	Apptus Recycling E-mail: shabaz@apttusrecyling.com
13	G.R. Lawhale	Sogo Synergy Pvt Ltd
14	Mr. Manmath	Sogo Synergy Pvt Ltd
15	P. Thara	E-Parisara Pvt Ltd
16	Dr. Salman.R	Ramky R, Dabaspet 9686200644 E-mail: drsalman.khan7@gmail.com
17	Dr. Roshan Pai Dr. Uttam R.P	ELXION Pvt Ltd 9980035360
18	Manjunath	Prakruthi Recycling 9880120633
19	Dr. Devendra G	Sandrad
20	Sh. Venugopal	I Seven
21	Sh. Jagadish Kumar M	Techlogic Unit 2
22	Shahbaz Business Manager	Aptus Ewaste Recycling Pvt Ltd shahbaz@aptusrecycling.com 9663998519
23	Sh. Hari	MMR Recycling (Moogambigai Metal Refineries Email: hari@mmrmetal.com 9901148952
24	Imran Ahmed Director	Best E-Waste Recyclers Pvt Ltd 9342017666

25	Sh Aditya	E-Parisaraa (VC)
26	Ms Sonal	VC
27	Sh Satish Kumar	VC
28	Sh Siva	Blueneck (VC)
29	Sh Janak Seth	VC

Annexure-II

Photographs taken during the Awareness Programme on E-Waste Management Rules, 2022 Organised on 12.09.2023 By Regional Directorate, CPCB, Bengaluru