

## E-Waste (Management) Rule 2016: Need to Gear-up Awareness by Environmentalists for its Effective Implementation

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**Abstract**-Increasing use and dependence on Electrical and Electronic Equipment (EEE), such as Mobile Phones, Personal Computers, Laptops, Servers, Data Storage Devices, Photo-copying-Machines, Televisions, Washing Machines, Refrigerators, Air Conditioners, etc. resulting into generation of large quantities of e-Waste. In the light of this great concern the Union Government has taken legal initiatives earlier in the year 2011 by enacting e-Waste (Management and Handling) Rules 2011. In due course of time and to remove some discrepancies in this rule, the Union has recently enacted e-waste (management) Rule 2016 which is now into force in order to reduce e-waste and promote for recycling of e-waste. The responsibility of management is entrusted upon Central Pollution Control Board at National level & to State Pollution Control Board at State levels. However, this does not only serve the purpose nevertheless this paper describe how the active participation to bring awareness needs to be gear-up by environmentalist.

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### I. INTRODUCTION

Increasing use and dependence on Electrical and Electronic Equipment (EEE), such as Mobile Phones, Personal Computers, Laptops, Servers, Data Storage Devices, Photo-copying Machines, Televisions, Washing Machines, Refrigerators, Air Conditioners, etc. resulting into generation of large quantities of e-Waste.[1][2]

The EEE have valuable materials and hazardous / toxic substances in their components. After their useful life, they may not cause any harm if stored safely in households/stores, however, if the e-Waste is opened-up and attempts are made for retrieval of useful components or material in an un-scientific manner or if the material is disposed in open, then it may cause health risks and damage to environment. [1][2]

### II. OBJECTIVE & APPLICATION

To enable the recovery and/or reuse of useful material from Waste Electrical and Electronic Equipment (WEEE), thereby reducing the hazardous wastes destined for disposal and to ensure environmentally sound management of all types of WEEE.

The e-waste (management) Rule 2016 came into force from the 1<sup>st</sup> day of October, 2016 in India hereinafter referred as 'Rule' for the purpose of this paper.[1][3]

#### APPLICATION

This Rule is applicable to every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in below in two categories

namely Category-I: Information technology and telecommunication equipment Category-II: Consumer electrical and electronics including their components, consumables, parts and spares which make the product operational.

#### **Category-I :Information technology and telecommunication equipment :**

Centralised data processing: Mainframes, Minicomputers, Personal Computing: Personal Computers, Personal Computing: Laptop Computers, Personal Computing: Notebook Computers, Personal Computing: Notepad Computers, Printers including cartridges, Copying equipment , Electrical and electronic typewriters , User terminals and systems, User terminals and systems, Facsimile, Telex , Telephones, Pay telephones, Cordless telephones, Cellular telephones and Answering systems

#### **Category-II: Consumer electrical and electronics:**

Television sets (including sets based on Liquid Crystal Display and Light Emitting Diode technology), Refrigerator, Washing Machine, Air-conditioners excluding centralized air conditioning plants Fluorescent and other Mercury containing lamps.

To know the details of this Rule environmentalist should be aware of all Important Definitions mentioned in this Rule so as to make the public aware about it.[1][4]

**'bulk consumer'** means bulk users of electrical and electronic equipment such as Central Government or State Government Departments, public sector undertakings, banks, educational institutions, multinational organizations, international agencies, partnership and public or private companies that are registered under the Factories Act, 1948 (63 of 1948) and the Companies Act, 2013 (18 of 2013) and health care facilities which have turnover of more than one crore or have more than twenty employees;

**'consumer'** means any person using electrical and electronic equipment excluding the bulk consumers;

**'end-of-life'** of the product means the time when the product is intended to be discarded by the user;

**'e-waste'** means electrical and electronic equipment, whole or in part discarded as waste by the consumer or bulk consumer as well as rejects from manufacturing, refurbishment and repair processes;

**'Extended Producer Responsibility'** means responsibility of any producer of electrical or electronic equipment, for channelization of e-waste to ensure environmentally sound management of such waste. Extended Producer Responsibility may comprise of implementing take back system or setting up of collection centers or both and having agreed arrangements with authorized dismantler or recycler either individually or collectively through a Producer Responsibility Organization recognized by producer or producers in their Extended Producer Responsibility - Authorization;

**'Extended Producer Responsibility - Authorization'** means a permission given by Central Pollution Control Board to a producer, for managing Extended Producer Responsibility with implementation plans and targets outlined in such authorization including detail of Producer Responsibility Organization and e-waste exchange, if applicable;

**'manufacturer'** means a person or an entity or a company as defined in the Companies Act, 2013 or a factory as defined in the Factories Act, 1948 or Small and Medium Enterprises as defined in Micro, Small and Medium Enterprises Development Act, 2006 (27 of 2006), which has facilities for manufacture of electrical and electronic equipment;

**'producer'** means any person who, irrespective of the selling technique used such as dealer, retailer, e-retailer, etc.; (i) manufactures and offers to sell electrical and electronic equipment and their components or consumables or parts or spares under its own brand; or (ii) offers to sell under its own brand, assembled electrical and electronic equipment and their components or consumables or parts or spares produced by other manufacturers or suppliers; or (iii) offers to sell imported electrical and electronic equipment and their components or consumables or parts or spares;

**'recycler'** means any person who is engaged in recycling and reprocessing of waste electrical and electronic equipment or assemblies or their components and having facilities as elaborated in the guidelines of Central Pollution Control Board;

In this Rule following Responsibilities have been imposed on manufacturer, producer, and consumer or bulk consumer by the Government of India.

#### **Responsibilities of the manufacturer**

- (a) Collect e-waste generated during the manufacture and channelize it for recycling or disposal;
- (b) Apply for an authorization in Form 1 (a) from the concerned State Pollution Control Board;
- (c) Ensure that no damage is caused to the environment during storage and transportation of e-waste;
- (d) Maintain records of the e-waste generated, handled and disposed;
- (e) File annual returns in Form-3, to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return relates.[1]

#### **Responsibilities of the producer**

- (a) Collection and channelization of e-waste generated from the 'end-of-life' products with the targets prescribed in Sch. III in EPR – Authorization.
- (b) The mechanism used for authorized dismantler or recycler shall be as per EPR - Authorization.
- (c) For disposal in Treatment, Storage and Disposal Facility, a pre treatment is necessary to immobilize the mercury and reduce the volume of waste.
- (d) EPR should comprise of general scheme for collection of e-waste from the market placed earlier, such as through dealer, collection centers, Producer Responsibilities origination, through buy-back arrangement, exchange scheme, deposit refund system etc. and channelizing to authorized recyclers.
- (e) Providing contact details such as address, e-mail address, toll-free telephone numbers or helpline numbers to consumer(s) or bulk consumer(s) through their website and product user documentation so as to facilitate return of end-of-life electrical and electronic equipment;
- (f) Creating awareness through media, publications, advertisements, posters, or by any other means of communication. [1]

#### **Responsibilities of consumer or bulk consumer**

- (a) consumers or bulk consumers shall ensure that e-waste generated by them is channelized through collection centre or dealer of authorized producer or dismantler or recycler or through the designated take back service provider of the producer to authorized dismantler or recycler;

(b) bulk consumers shall maintain record of e-waste generated by them in Form-2 and make such records available for scrutiny by the concerned State Pollution Control Board;

(c) consumers or bulk consumers shall ensure that such end-of-life electrical and electronic equipment are not admixed with e-waste containing radioactive material as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and rules made there under;

(d) bulk consumers shall file annual returns in Form-3, to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return

In case of the bulk consumer with multiple offices in a State, one annual return combining information from all the offices shall be filed to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return relates [1]

#### Storage of e-waste

The rule states clearly about the storage of e-waste. Not following is supposed to be the breach of rule and liable for action. Every manufacturer, producer, bulk consumer, collection centre, dealer, refurbisher, dismantler and recycler should try to bring awareness for this, which is very important. It is noted that to store the e-waste for a period not exceeding one hundred and eighty days is not allowed. It is also mentioned in the rule that, all users shall maintain a record of collection, sale, transfer and storage of wastes and make these records available for inspection [1][4]

### III. REMEDIES FOR IMPLEMENTATION

The principal responsibilities are given to Central Pollution Control Board (CPCB) and specifically to the Maharashtra Pollution Control Board (MPCB) for the State of Maharashtra. These authorities have taken initiatives to implement the E-Waste rule 2016. However, these initiatives seem to be slow which needs to gear-up. For this following remedies are suggested –

- (i) MPCB should inform to academic and professional bodies regarding the conduction of awareness programs.
- (ii) MPCB should make a pool of E-Waste experts and environmentalists to implement the programme.
- (iii) MPCB in collaboration with academic institutes, industries and local bodies should evolve the methodology of bringing awareness through advertisements, road shows, documentaries, etc. at public places and pilgrim places.
- (iv) Universities and Autonomous Academic Bodies should evolve a curriculum based on E-Waste (Management) Rule 2016.
- (v) MPCB should give seed fund to the potential colleges/Departments for any innovative programme

, the college or department would like to organize for effective implementation of E-Waste Rule 2016.

### IV. CONCLUSION

Dark side of the ICT age is E-Waste. It is true that use of Electronic gadgets and devices is unavoidable in ICT era. However, to prohibit unscientific disposal of E-Waste the Union Government has taken initiatives to reduce E-Waste and its unscientific disposal by way of enacting the E-Waste ( Management ) rule 2016. Because of lukewarm response from the implementing authorities, implementation of this rule is still on paper. For effective implementation of this rule, the implementing authorities' needs to gear up the above suggested remedies. The role of Government and each individual is very important for this. If not taken we will be blamed by the next generations to come.

### REFERENCES

- [1] The government of India's E-Waste (handling and management) rule 2011.
- [2] The government of India's E-Waste (management) rule 2016.
- [3] <http://www.cpcb.gov.in>
- [4] <http://www.mpcb.gov.in>