

**COMMITTEE ON SUBORDINATE LEGISLATION**

**(2015-2016)**

**(SIXTEENTH LOK SABHA)**

**FIFTEENTH REPORT**

**RULES ON E-WASTE MANAGEMENT**

**(PRESENTED TO LOK SABHA ON 10.8.2016)**

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**LOK SABHA SECRETARIAT**

**NEW DELHI**

**August, 2016/ Sravana, 1938 (Saka)**

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**COMPOSITION OF THE COMMITTEE ON SUBORDINATE LEGISLATION (16<sup>th</sup> LOK SABHA)  
(2015-2016)**

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**SECRETARIAT**

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2. Shri Ajay Kumar Garg      -      Director
3. Shri Nabin Kumar Jha      -      Additional Director

## INTRODUCTION

I, the Chairperson, Committee on Subordinate Legislation having been authorised by the Committee to submit the report on their behalf, do present this Fifteenth Report.

2. The matters covered by this Report were considered by the Committee on Subordinate Legislation at their sitting held on 23.2.2016 during which oral evidence of the representatives of Ministry of Environment, Forests and Climate Change and the representatives of Ministry of Communications and Information Technology (Department of Electronics and Information Technology) was taken.

3. The Committee considered and adopted this Report at their sitting held on 8.8.2016.

4. Minutes of the Seventh sitting of the Committee (2015-16) held on 23.2.2016 and Extracts from the Minutes of Fifteenth Sitting of the Committee (2015-16) held on 8.8.2016 relevant to this Report are included in Appendix-I of the Report.

**New Delhi;  
August, 2016  
Sravana, 1938 (Saka)**

**DILIPKUMAR MANSUKHLAL GANDHI  
Chairperson,  
Committee on Subordinate Legislation**

# **PART-I**

## **CHAPTER I**

### **INTRODUCTION**

Electronic waste creates a global crisis due to environmental degradation. The major concern of electronic waste (e-Waste) management in India is recycling of e-Waste in non-formal units by unscientific, unhealthy and non-environmental friendly methods. Like other parts of the world, India is also facing serious challenges due to growing generation of e-Waste, lack of environmental awareness among the public, consumers, producers and the social and economic aspects associated with it, effective role of policy makers and legislators to address these challenges.

1.2 India is going through an exciting phase of development and economic transformation. Information Technology has given India formidable brand equity in the global market. Electronics industry in India, however, depends heavily on imports of electronic goods to meet its domestic demand. More than 35% of electronic appliances imports in India are sourced from China. Electronic and appliances industry would reach to US \$ 400 Bn by 2020. In order to absorb this growth, the country would generate enormous electronic waste. Though no inventory assessment was conducted by any Government agency, the Central Pollution Control Board (CPCB) earlier indicated that the country had 0.8 MT of e-Waste in 2012. Experts, however, believe that the volume would be significantly high if one considers usage of electronic in all the sectors including ICT, automotive, medicals, strategic, etc.

1.3 The Ministry of Environment and Forests and Climate Change (MoEF&CC) is the nodal agency for policy, planning, promoting and coordinating the environmental programmes and is involved in enacting laws and guidelines referring to e-Waste. MoEF&CC enforced exclusive rules on e-Waste (Management and Handling) Rules, 2010 w.e.f. 12th May, 2011.

1.4 Department of Electronics and Information Technology (DeitY), being the nodal department for Electronics and IT, is involved in developing technology to recycle e-Waste in an environment friendly manner. DeitY is promoting R&D to develop technological solutions for e-Waste management in environmental friendly manner.

## CHAPTER - II

### E-WASTE GENERATION AND LEGISLATION

With the rapid product, innovation and miniaturisation which is taking place and increasing consumption of disposable goods, changing lifestyles, it is found that the generation of e-Waste has increased. Although there is no systematic inventorisation and survey of e-Waste generated globally and in India, there have been individual research efforts indicating the quantities of e-Waste that is generated.

#### A. Global Scenario

2.2 (a) A report of the United Nations predicted that by 2020, e-Waste from old computers would jump by 400 per cent of 2007 levels in China and by 500 per cent in India. Additionally, e-Waste from discarded mobile phones would be about seven times higher than 2007 levels and, in India, 18 times higher by 2020.

2.2.2 As per the Inventory Assessment Manual of the UNEP, 2007, it is estimated that the total e-Waste generated in the EU is about 14-15 kg per capita whereas in countries like India and China, annual generation per capita is less than 1kg.

2.2.3 According to United Nations University's Report on the Global e-Waste, 2014, the global quantity of e-Waste in 2014 comprised of 1.0 Million tonnes (MT) lamps, 3.0 MT of Small IT, 6.3 MT of screens and monitors, 7.0 MT of temperature exchange equipment (cooling and freezing equipment), 11.8 MT large equipment, and 12.8 MT of small equipment. The amount of e-Waste is expected to grow to 49.8 MT in 2018, with an annual growth rate of 4 to 5 per cent.

2.3 The Secretary, Ministry of Environment, Forests and Climate Change (MOEFCC) during the oral evidence before the Committee on 23.2.2016 had submitted that the value of the global e-Waste is estimated to be about USD 52 billion in 2014 and clarified that it is the value of material which can be recovered from e-Waste as there is substantial quantity of gold also which is recovered from e-Waste. The Committee were also informed that globally Asia

generates the maximum e-Waste with 16 million tonnes. As regards the formal collection system of e-Waste, it was submitted before the Committee that as much as 40 per cent is collected in European Union countries, 28 per cent in China, and 24 per cent in Japan. As regards the reasons for such high generation of e-Waste in developing countries, it was stated that the demand for non-expensive second hand equipment and raw materials in developing countries is one of the biggest drivers for global trade of e-Waste. In these countries, self employment and collection and recycling of e-Waste and channelisation through unskilled labour is very high.

### **Approaches adopted globally for the management of E-Waste**

2.4 The Ministry of Environment, Forests and Climate Change (MOEFCC) in a written submission stated that mostly Extended Producer Responsibility (EPR) based approach is being followed globally for management of e-Waste. Country specific brief of the EPR for e-Waste management are given as below:

(a) **Taiwan** - (i) Recycling fund management scheme is there in which manufacturers and importers have to pay for the collection and recycling cost; (ii) economic activities for commercial recycling units to participate in the scheme; (iii) proper treatment guaranteed through huge monitoring cost.

(b) **China** - (i) Producers are to pay for cost of recycling to government which has the physical responsibility; (ii) Fund established with payment of recycling fee on each product by Producer and managed by Ministry of Finance for subsidising recycling cost; (iii) Monetary compensation act as incentive for recycling companies; (iv) Labelling of refurbished products.

(c) **South Korea** - (i) Manufacturers to pay advance deposit fee to cover recycling cost which is based on product shipped during previous FY i.e. only financial responsibility.

(d) **E.U.** - (i) Producers provide funding of collection to recycling or reuse through Producers Compliance Scheme (PCS); (ii) PCS to report information and declare compliance; (iii) registration of producers with Environment Agency is duty of PCS.

## **B. Indian Scenario**

2.5 There are varying reports about the e-Waste generated in India as may be seen from the following : -

- i. According to the Comptroller and Auditor-General's (CAG) Report, 4 lakh tones of electronic waste is generated in the country annually;
- ii. In 2005, the Central Pollution Control Board (CPCB) estimated India's e-Waste at 1.47 lakh tones or 0.573 MT per day;
- iii. A study released by Electronics Industry Association of India (ELCINA) at the electronics industry expo –“Componex Nepcon 2009” had estimated the total e-Waste generation in India at a whopping 4.34 lakh tones by end 2009; and
- iv. The CPCB has estimated that it will exceed the 8 lakh tones or 0.8 MT mark by 2012.

There are 10 States that contribute to 70 per cent of the total e-Waste generated in the country, while 65 cities generate more than 60 per cent of the total e-Waste in India. Among the 10 largest e-Waste generating States, Maharashtra ranks first followed by Tamil Nadu, Andhra Pradesh, Uttar Pradesh, West Bengal, Delhi, Karnataka, Gujarat, Madhya Pradesh and Punjab. Among the top ten cities generating e-Waste, Mumbai ranks first followed by Delhi, Bengaluru, Chennai, Kolkata, Ahmedabad, Hyderabad, Pune, Surat and Nagpur (Disposal of e-Waste, Rajya Sabha Unstarred Question no. 1887, dt, 07.12.2009).

2.6 The main sources of electronic waste in India are the government, public and private (industrial) sectors, which account for almost 70% of total e-Waste generation. An Indian Market Research Bureau (IMRB) survey of “e-Waste generation at source” in 2009 found that out of the total e-Waste volume in India, televisions and desktops including servers comprised 68% and 27% respectively. Imports and mobile phones comprised of 2% and 1% respectively.

## **E-Waste Legislation in India**

2.7 The Ministry of Environment, Forests and Climate Change is the nodal agency for policy, planning, promoting and coordinating the environmental programmes and is involved in enacting laws, guidelines referring to e-Waste. The Department of Electronics and IT is involved in developing technology to recycle e-Waste in an environment friendly manner. DietY promotes R&D for developing technological solutions for e-Waste management environmentally sound manner. Recycling and recovery of valuable resources from waste is essential to conserve the natural resources, which are depleting at a faster rate due to over-consumption.

2.8 The Ministry of Environment, Forests and Climate Change in a written submission stated that in order to address the management of e-Waste, Ministry notified the e-Waste (Management and Handling) Rules, 2011 which came into effect from 1<sup>st</sup> May, 2012. These rules are applicable to every producer, consumer or bulk consumer, collection centre, dismantler and recycler of e-Waste involved in the manufacture, sale, purchase and processing of electrical and electronic equipment namely (i) IT and Telecommunication Equipment and (ii) Consumer Electricals and Electronics such as TVs, Washing Machine, Refrigerators and Air conditioners are covered under these rules.

2.9 The Ministry added that the concept of Extended Producer Responsibility (EPR) has been enshrined in these Rules as per which the producers shall be responsible for environmentally sound management of e-Waste generated from their end of life equipment. Extended Producer Responsibility (EPR) is enshrined as the main feature of the e-Waste (Management and Handling) Rules, 2011, wherein the producer of electrical and electronic equipment has the responsibility of managing such equipment after its 'end of life', thus the producer is responsible for their products once the consumer discards them. Under this EPR, producer is also entrusted with the responsibility to finance and organize a system to meet the costs involved in complying with EPR. The producers are required to obtain authorization from SPCB/PCCs for implementing their EPR. It also has specific provision for Reduction of

Hazardous Substances (RoHS) in EEE at the manufacturing stage, which became implementable from May, 2014.

The Ministry in their background note submitted to the Committee that as per the available information from Central Pollution Control Board (CPCB), Producer authorization for Extended Producer Responsibility (EPR) has been issued to 151 Producers, authorization issued to 132 collection centres and there are 148 registered recyclers /dismantlers.

2.10 The other salient features of the aforesaid rules are given below:

- Collection Centers can be set up by Producer or by any person or agency or association for the purpose of collecting e-Waste
- Micro and Small Enterprises as defined in MSME Development Act, 2006, have been exempted from application of the said e-Waste Rules with respect to the responsibility of producers.
- The threshold limits prescribed in EU RoHS Directive, which is globally accepted standard for the hazardous substance used in manufacture of electrical and electronics components have been adopted.
- Registration of Dismantlers and Recyclers with State Pollution Control Boards (SPCBs) has been made mandatory. SPCBs, on being satisfied that the applicant is utilizing environmentally sound technologies to reprocess e-Waste, may grant registration initially for two years and thereafter depending upon the performance, it may be renewed further for a period of five years.
- To restrict hoarding of certain components of e-Waste, the maximum storage period for e-Waste has been restricted to 180 days
- Producers, collection centers, dismantlers and recyclers are required to submit annual returns to the State Pollution Control Board concerned. Subsequently, SPCBs/ PCCs are to submit annual reports to CPCB.
- CPCB will consolidate the information and submit an annual report on e-Waste management, along with its recommendations, to the Ministry.

2.11 Submitting the reasons for notification of fresh e-Waste Rules to be made effective from 16 October, 2016, the Ministry stated that taking cognizance of unsatisfactory compliance of various provisions of e-Waste Rules, 2011, specially the implementation of provision on Extended Producer Responsibility (EPR) by Producers, setting up of collection centres and the capacity of recyclers, it was decided in the Ministry to amend the rules to address the issue of poor compliance of the rules. Accordingly, draft e-Waste (Management) Rules, 2015 have been notified and are slated to come into force w.e.f. 16 October, 2016. The salient provisions of these Rules include the following:

- i) The definition of Stakeholders to be covered under the rules is being expanded to manufacturer, dealer, refurbisher, e-retailer and Producer Responsibility Organization (PRO) and e-Waste exchange to address leakage of e-Waste to informal sector at any stage of the chain;
- ii) Applicability of the Rules is now being extended to components, consumables and spare parts of EEE which makes the product operational;
- iii) Only Micro Enterprises have been exempted whereas the Small and Medium enterprises as defined in MSMEs Development Act, 2006 has been covered under the purview of these Rules as manufacturer of EEE and their spare parts;
- iv) Bulk Consumer is being redefined in terms of turnover and the number of employees and they need to file annual returns now;
- v) The target based approach with introduction of more flexibility for implementation of Extended Producer Responsibility (EPR) and phase wise target has also been fixed for ease of Producers and compliance of the EPR ;
- vi) Option has been given for setting up of PRO, e-Waste exchange, e-retailer, Deposit Refund , as additional channel for implementation of EPR by Producers to ensure efficient channelization of e-Waste;
- vii) Authorization not required for Collection centres which shall now be Producers responsibility with collection mechanism approach
- viii) Compact Fluorescent Lamp (CFL) and other mercury containing lamp brought under the purview of rules.

- ix) EPR Authorization for Producers is being CPCB's responsibility to ensure pan India implementation;
- x) Simplification in registration/ authorization for dismantling and recycling through one system i.e. Authorization instead of both registration and authorisation;
- xi) Mandatory obligation is being introduced for dismantlers to supply non e-Waste components to relevant registered recyclers of the product;
- xii) Provision on Reduction of Hazardous Substances (RoHS) and related Schedule II has been revised in line with existing EU regulatory framework which forms the basis of the provision;
- xiii) In case the product does not comply with the RoHS provision, provision has been introduced to withdraw or recall the product from market and take corrective measures to bring the product into compliance;
- xiv) The roles of the State Government have been also introduced in the Rules in order to ensure safety, health and skill development of the workers involved in the dismantling and recycling operations including earmarking or allocation of e-Waste dismantling/recycling by the respective departments or government agency;
- xv) Liability for damages caused to the environment or third party due to improper management of e-Waste including provision for levying financial penalty for violation of provisions of the Rules has also been introduced;
- xvi) Urban Local Bodies (Municipal Committee/Council/Corporation) has been assigned the duty to collect and channelize the orphan products to authorized dismantler or recycler;
- xvii) Provision to file an appeal in case aggrieved by an order of suspension or cancellation or refusal of authorisation or its renewal passed by the Central Pollution Control Board or State Pollution Control Board;

## **CHAPTER III**

### **ROLE OF CENTRAL POLLUTION CONTROL BOARD AND STATE POLLUTION CONTROL BOARDS**

The Central Pollution Control Board (CPCB) is a statutory organisation constituted in September, 1974 under the Water (Prevention and Control of Pollution) Act, 1974. It serves as a field formation and also provides technical services to the Ministry of Environment and Forests on the provisions of the Environment (Protection) Act, 1986.

3.2 The major role and functions assigned to Central Pollution Control Board (CPCB) as envisaged in the e-Waste Management Rules, 2016 are as under:-

- (i) Grant and Renewal of Extended Producer Responsibility - Authorisation and monitoring of its compliance.
- (ii) Maintain information on Extended Producer Responsibility - Authorisation on its web site.
- (iii) Set and revise targets for collection of e-Waste from time to time.
- (iv) Coordination with State Pollution Control Boards
- (v) Preparation of Guidelines for Environmentally Sound Management of e-Waste.
- (vi) Conduct random check for ascertaining compliance of the e-Waste rules and identification of such importers or producers who have not applied for Extended Producer Responsibility authorisation or are not complying with RoHS provision. Wherever necessary, Central Pollution Control Board will seek the help of customs department or any other agency of the Government of India.
- (vii) Conduct random inspection of dismantler or recycler or refurbisher.
- (viii) Documentation, compilation of data on e-Waste and uploading on websites of Central Pollution Control Board
- (ix) Actions against violation of these rules.
- (x) Conducting training programmes.
- (xi) Submit Annual Report to the Ministry.
- (xii) Enforcement of provisions regarding reduction in use of hazardous substances in manufacture of electrical and electronic equipment.
- (xiii) Interaction with IT industry for reducing hazardous substances.
- (xiv) Set and revise targets for compliance to the reduction in use of hazardous substance in manufacture of electrical and electronic equipment from time

to time. (xv) Any other function delegated by the Ministry under these rules from time to time.

3.3 Similarly, the State Pollution Control Boards (SPCB) and Pollution Control Committees (PCC) are responsible for prevention and control of environmental pollution in the States and Union Territories respectively.

3.4 The major role of State Pollution Control Boards (SPCB) as envisaged in the e-Waste Management Rules, 2016 is as under:-

(i) Inventorisation of e-Waste. (ii) Grant and renewal of authorisation to manufacturers, dismantlers, recyclers and refurbishers. (iii) Monitoring and compliance of Extended Producer Responsibility - Authorisation as directed by Central Pollution Control Board and that of dismantlers, recyclers and refurbishers authorisation. (iv) Conduct random inspection of dismantler or recycler or refurbisher. (v) Maintain online information regarding authorisation granted to manufacturers, dismantlers, recyclers and refurbishers. (vi) Implementation of programmes to encourage environmentally sound recycling. (vii) Action against violations of these rules. (viii) Any other function delegated by the Ministry under these rules.

#### **Submission of Annual Returns by SPCBs/PCCs**

3.5 As per Rule 15 of the e-Waste Rules of 2011, the State Pollution Control Boards and Committee are required to submit Annual Reports to CPCB by 30th September of every year on management of e-Waste. In this regard, the Ministry of Environment, Forest and Climate Change were asked to state whether all SPCBs are submitting their Annual Reports. The Ministry vide their reply dated 11 April, 2016 submitted as under:-

With regard to annual reporting of SPCB to CPCB as informed by CPCB; for FY 2012-13 CPCB received annual report from 15 SPCBs and 3 PCCs, for the year 2013-14, CPCB received annual report from 16 SPCBs and 3 PCCs and for the year 2014-15, so

far CPCB has received annual report from 13 SPCBs and 4 PCCs. CPCB is regularly following up with the SPCBs/PCCs for submission of Annual Report. However, it is recommended that for effective reporting from SPCB; SPCBs/PCCs should have a separate e-Waste Management division /unit which should be headed by officer of the rank of Scientist 'D' and above. Further, CPCB may initiate action against the defaulter SPCBs/PCCs under the provision of EPA, 1986.

### **INVENTORISATION OF e-WASTE**

3.6 The quantity and characterization of e-Waste is warranted to trace the chief generators of waste and to gauge the risks involved. It is also necessary for implementing an environmentally safe and scientific way for disposal of e-Waste. Therefore, it is of utmost importance to keep an inventory of e-Waste as well as have a survey done on generation of e-Waste. In this regard the MOEFFC were requested to state whether they have contemplated any proposal for inventorisation and survey of e-Waste in India.

3.7 The Ministry of Environment, Forests and Climate Change in their reply dated 11 April, 2016 stated as under:-

"Under the e-Waste (Management) Rules, 2016; inventorisation of e-Wastes responsibility of State Pollution Control Board (SPCB), who will be coordinating with all the stakeholders for the purpose. Further, the Form for filing annual return under the Rules has been revised completely to make it comprehensive enough to ensure easy availability and thus compilation of the data by SPCB for the inventory. Thus its neither feasible nor required to create a body at this stage just for the purpose of inventorisation."

## CHAPTER IV

### IMPORT OF ELECTRICAL AND ELECTRONIC EQUIPMENT (EEE) AND THE THREAT OF e-WASTE

The import of electrical and electronic equipment (EEE) especially the second hand electronic and electrical goods have over the years added to the e-Waste component of the country. In this regard, during the oral evidence held on 23 February, 2016, the representative of the Ministry of Environment, Forests and Climate Change submitted the following:

"So no country legitimately, legally allows export of e-Waste and no country is supposed to import e-Waste. However, the demand for second hand electronic, electric goods could exist in many countries. It could exist for a variety of reasons. For example, if the availability of certain equipment is less than the demand, then it will be imported. So, what we have taken care of is that in the proposed rules we have said that if second hand equipment is imported, then it must not be more than three years old and it must have a residuary life of about five years. Only then that equipment can be permitted to be imported. In the case of life saving equipment, we took the advice of the Ministry of Health and the view of the Ministry of Health was that life saving equipment, if they are second hand, they should not be allowed to be imported. So, we have gone by their advice and that is the proposal that we have made in the rules that life saving equipment, whatever is life saving equipment as defined by the Ministry of Health, the second hand life saving equipment will not be allowed to be imported. So, that is the safeguard which we have taken."

4.2 Subsequently, the Ministry of Environment, Forest and Climate Change were asked to state whether they have contemplated any measure to completely ban the import of second hand electronic goods into the country with few exceptions, if necessary.

4.3 The MOEFCC in their reply dated 11 April, 2016 submitted as under:-

“Import/ export of e-Waste including second hand electrical and electronic equipment (EEE) are regulated under the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008. Second hand EEE are imported in the country for various purposes which include R&D, training, spare parts for warranty replacement, repair, renting, etc. The import of these used EEE is mostly with the premise of re-export after certain period or at the end of life. Ban of such import with high investment cost will hamper the electronic industry significantly that the import of new one will entail. This will further reduce the foreign investments which also creates significant job opportunities in the country. All such imports are in line with international practices being followed globally.”

4.4 In this context, the response of the Department of Electronic and Information and Information Technology (DeiTy) was as under:-

"The Department has been receiving applications from Director General Foreign Trade (DGFT) under the Foreign Trade Policy for grant of permission for import of second hand computers, spares, etc. The Department has been taking a guarded approach while forwarding recommendation to DGFT. Further, DeiTY has been participating in meetings of MOEF&CC for grant of permission for import of second hand goods under the provision of e-Waste (Management, Handling & Transboundary Movement) Rules."

## **CHAPTER V**

### **TAX CONCESSIONS AND OTHER INCENTIVES**

Fiscal concessions and other incentives to the industry involved in the management of e-Waste is necessary as this industry is at the infancy stage besides ensuring growth of formal sector within the industry. In this regard the MoEFCC were requested to clarify the comments made by the representative of the Ministry of Communications and IT (Department of Electronics and IT) during the oral evidence before the Committee on 23 February, 2016 regarding the subsidy provided for setting up e-Waste processing plant and also to details of any other incentives to the e waste processing industry.

5.2 The MOEFCC vide their reply dated 11 April, 2016 submitted the following:-

"As informed by DietY, to offset disability and attract investments in Electronic Manufacturing , Government approved the scheme called the Modified Special Incentive Package Scheme (M-SIPS). The scheme was notified vide Department of Electronics and Information Technology (DietY) Notification No. 24 (10)/2010-IPHW dated 27.7.2012. Further, amendment notification was issued on 03.08.2015. The Scheme provides 20-25% subsidy for investments in capital expenditure for setting up of electronic manufacturing facility (20% of capital expenditure if the unit is located in SEZ and 25% of capital expenditure if the unit is located in non-SEZ area). The incentives are available for 44 categories of electronic products and product components including "e-Waste processing/recycling". Units across the value chain starting from raw materials to assembly, testing and packaging of these product categories are included. The Scheme is open to receive initial applications till 26<sup>th</sup> July, 2020."

## **CHAPTER VI**

### **DISMANTLERS, RECYCLERS AND REFURBISHERS'**

The dismantlers, recyclers and refurbishers have been defined in the E- waste (Management) Rules, 2016 as under:

- (a) 'dismantler' means any person or organisation engaged in dismantling of used electrical and electronic equipment into their components and having facilities as per the guidelines of Central Pollution Control Board and having authorisation from concerned State Pollution Control Board;
- (b) '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;
- (c) 'refurbisher' for the purpose of these rules, means any company or undertaking registered under the Factories Act, 1948 or the Companies Act, 1956 or both or district industries centre engaged in refurbishment of used electrical and electronic equipment;

#### **A. Criteria for Dismantlers, Recyclers and Refurbishers**

6.2 The management of e-Waste is not complete without the effective role of dismantlers, recyclers and refurbishers in the entire process as they are the ones who are responsible for the safe disposal of EEE products which have completed their lifecycle. Accordingly, the criteria for selecting dismantlers, recyclers and refurbishers becomes crucial in the entire process of managing e-Waste. In this regard the Ministry were requested to furnish their comments on as to how the dismantlers, recyclers and refurbishers are short listed and if the criteria is provided in the rules.

6.3 The MOEFCC vide their reply dated 11 April, 2016 replied as under:-

“Dismantlers, recyclers and refurbishers are authorised under the rules on the basis of criteria provided under Standard Operating Procedure/Guidelines formulated by Central Pollution Control Board (CPCB).

Since the criteria are bound to change regularly as per the technological upgradation, specifying them within the legislation will restrict the compliance with evolutionary nature of the technology. Accordingly, guidelines or standard operating procedure are the way to address the evolutionary nature of the technology that is associated with dismantling, recycling or refurbishing.”

## **B. Integration of formal and Informal Recyclers**

6.4 The informal sector among the recyclers process almost 95% of e-Waste while the formal sector which is bound by the rules/regulations and operate in a legal framework are catering to a very small portion of the recycling of e waste business. The recyclers in the formal sector due to their professional expertise are in a position to extract maximum amount of precious metals and rare earth elements from residual goods. However, the informal sector have unscientific and environmentally hazardous process of extracting metals from the e-Waste. However, the informal sector has access to the maximum volume of e-Waste which is deprived to the formal sector. Therefore, there is a need to bring in the informal recyclers in the ambit of formal system so that the advantage occurs to everyone. In this regard, the representatives of MOEFCC during the oral evidence before the Committee on 23 February, 2016 submitted the following:-

“In Australia, only 1% of e-Waste is collected under the formal system despite the fact it is a developed country. In their law it is written that all consumers will directly give the e-Waste to recycling centre. The collection is directly given to the recycling centres, therefore, the responsibility of producer becomes less. We can follow this provision in our bigger urban centres. The other best practice followed is to bring in the informal sector into the formal sector, register them and create employment.”

## **CHAPTER VII**

### **PENAL PROVISIONS**

The representatives of the Ministry of Environment, Forests and Climate Change testified before the Committee on 23 February, 2016 that e-Waste rules have been made under the Environment Protection Act, 1986 and there is no provision for monetary penalty under the Act. The Ministry had recently thought over a new provision but in penal provision either it is closure of industry or criminal action that can be prescribed. However, in new rules there is a provision for penal action on industry.

7.2 The MoEF&CC in their further clarified as under:-

The Environment Protection Act, 1986 (EPA 1986) is an umbrella legislation which had been notified with purpose for protection and improvement of the human environment and the prevention of hazards to human beings, other living creatures, plants and property. Further, it provides for formulation of rules and regulations under the Act for effective implementation of the contents of the Act. Section 5 of the Act provides for 'Power to Give Direction' under which the Central Government may, issue directions in writing to any person, officer or any authority and such person, officer or authority shall be bound to comply with such directions. Further, Section-15, provides for 'Penalty for contravention of the provisions of the Act and the rules, orders and directions'; under which whoever fails to comply with or contravenes any of the provisions of this Act, or the rules made or orders or directions issued thereunder, shall in respect of each such failure or contravention be punishable with imprisonment for a term which may extend to five years with fine which may extend to one lakh rupees, or with both, and in case the failure or contravention continues, with additional fine which may extend to five thousand rupees for every day during which such failure or contravention continues. If

the failure of contravention referred in sub section (1) continues beyond a period of one year after the date of conviction, the offender shall be punishable with imprisonment of a term which may extend to seven years.

Since the e-Waste (Management) Rules, 2016 have been formulated under the Act, the penal provisions shall be as per the Act.

The new e-Waste (Management) Rules, 2016 provided for new provision on Liability of manufacturer, producer, importer, transporter, refurbisher, dismantler and recycler under which the manufacturer, producer, importer, transporter, refurbisher, dismantler and recycler shall be liable for all damages caused to the environment or third party due to improper handling and management of the e-Waste and shall be liable to financial penalties as levied for any violation of the provisions of SPCB.

Further, the penal provisions to be prescribed by state government shall be as per the provision of e-Waste (Management) Rules, 2016 notified under EPA, 1986."

**CHAPTER VIII**  
**TRAINING AND CAPACITY BUILDING**

One of the cornerstone for effective implementation of the e-Waste management in India is the fulfilling the requirement of the skilled manpower to handle the e-Waste in an effective and efficient manner. In this regard, the MoEFCC vide their reply dated 11 April, 2016 submitted that a Central Sector Scheme titled 'Creation of Management Structure for Hazardous Substances' of the Ministry has provision for providing funding for training and capacity building with respect to e-Waste management. Under this scheme, the Ministry funded an amount of Rs 36,74,789/- to various organisations/institutions for conducting training and workshop for various stakeholders which included Producer, Bulk Consumer, Consumer, Recyclers etc. The details of the expenditure are as under:-

2015-2016		2014-2015		2013-2014		2012-2013		Grand Total (in Rs.)
Name of Organisation	Annual Released (in Rs.)	Name of Organisation	Annual Released (in Rs.)	Name of Organisation	Annual Released (in Rs.)	Name of Organisation	Annual Released (in Rs.)	
CEE	19,992	PHD Chambers of Commerce	6,60,000	CII	4,00,000	CPREEC	4,00,000	
		CPREEC	11,94,797			CEE	1,00,000	
						PHD Chambers of Commerce	4,00,000	
						Karnataka	5,00,000	
Total	19,992		18,54,797		4,00,000		14,00,000	36,74,789

8.2 It was further submitted by the Ministry that as the impact of the activities regarding implementation of the e-Waste (Management & Handling) Rules, 2011 was not visible, they have notified the new e-Waste (Management) Rules, 2016 and now the CPCB has been assigned the duty of imparting training to all parties involved in the e-Waste management and management for desired result.

## CHAPTER IX

### AWARENESS PROGRAMMES

The e-Waste management is incomplete without the awareness programmes and the desired effect of the e-Waste management may not be realised unless the public in general are made aware of the methods/procedure in handling & disposing of e-Waste. The representatives of the Ministry of Environment, Forests and Climate Change during their oral evidence before the Committee on 23 February, 2016 submitted that lack of public awareness was one of the major reasons of non-success of 2011 Rules. In 2011 Rules, the responsibility of public awareness was with the producers for which they were to conduct programmes but unfortunately, the same was not successful. Therefore, new rules lay stress on public awareness and one of the point is that whatever electronic product is sold, the back side of the information booklet of the product will carry the regulations regarding disposal of e-Waste, risk associated with unauthorised dismantling, etc.

9.2 The MoEFCC in their post evidence reply dated 11 April, 2016, submitted the following regarding the awareness programmes:-

"DeitY is implementing an "Awareness Programme on Environmental Hazards of Electronic Waste" since March 2015 under the aegis of Software Technology Parks of India (STPI), New Delhi to create awareness among the public about the hazards of e-Waste recycling by the unorganized sector and to educate them about alternate methods of disposing their e-Waste. The programme would stress the need for adopting environmental friendly e-Waste recycling practices. Short modules and films would be created for spreading general awareness about the hazards of the recycling methods being used by the unorganized sector vis-à-vis best practices available for environment friendly recycling. The general public would be encouraged to participate in "Swachh Digital Bharat" by giving their e-Waste to the authorized recyclers only. The programme would adopt best practices for e-Waste recycling available globally, so that this sector

could generate job as well as viable business prospects for locals. During the entire project duration of 5 years, a city each in the 10 identified states would be covered in pilot stage. The stakeholders involved are schools/ Colleges/ Residents' Welfare Associations/ Bulk Consumers/ Regulatory Bodies, media engagement, etc. Suitable course content for various stakeholders, organising awareness programme and inventory study of quantum of e-Waste are broad agenda. So far, one project on content development, two projects on inventory study for the four states Uttar Pradesh, Jharkhand, West Bengal and Odisha have been initiated. Another project to organize workshop in proposed ten states, would be initiated to disseminate the developed contents. Two more projects to create awareness for government officials from State Government on e-Waste and Restriction of Hazardous Waste are under process for final approval".

9.3 In relation to making the awareness programmes more wide, the Ministry were requested to state whether e-Waste management could be made a part of curriculum in subjects relating to Information Technology and Management courses taught in schools and Universities, the MOEFCC vide their reply dated 11 April, 2016 submitted the following:-

“As of now ostensibly, e-Waste management has not been specifically incorporated as part of the curriculum in subjects relating to Information and Management courses taught in schools and universities. However, this Ministry agrees that any such initiative will be useful in effective control of e-Waste through awareness and capacity building.”

## CHAPTER X

### RESEARCH AND DEVELOPMENT

The task of research and development in the technology pertaining to management of e-Waste in an environmentally sound manner falls within the domain of the Ministry of Communications and IT (Department of Electronics and IT).

10.2 As per the information submitted by the DeitY, a number of R&D projects have been initiated at national institutions in India. Some such projects are:

#### **“Pilot scale Research and Development to demonstrate e-Waste Recycling Facility using Physical Separation Method:**

A processing technology has been developed for recycling and reuse of electronic waste at National Metallurgical Laboratory (NML), Jamshedpur. In this effort, the project has reached a stage where on a pilot scale upto 1 Metric Tonne of e-Waste had been successfully recycled. The processing technology for recycling of e-Waste through physical separation and chemical leaching methods had been developed at NML, Jamshedpur. Attempt is being made to take it to possible commercial application.

#### **Research and Development to Demonstrate e-Waste Recycling Facility using Pyrolysis and Smelting Method**

In another project, the recovery process of precious metals from Printed Circuit Boards (PCBs) had been successfully developed jointly by Centre for Materials for Electronics Technology (C-MET), Hyderabad - an R&D laboratory under DeitY and E-parisaraa, Bangalore. In this project, an unique components depopulation followed by pyrolysis and solvent extraction route has been established and demonstrated. In the second phase, a large scale

demonstration project was proposed to showcase sustainable PCB recycling using materials from formal and non-formal sectors.

### **Setting up of a Pilot Demonstration plant of e-Waste Recycling Facility**

In order to upscale the processing technology developed under DeitY's initiatives including recycling of e-Waste through physical separation, chemical leaching methods as well as recovery of precious metals through pyrolysis process from Printed Circuit Boards had been developed. Utilizing this technology, DeitY has set up a demonstration plant at Bangalore with participation from State Government, where organized and unorganized sector would utilize the facility to process PCBs in safe environmentally sound method. The demonstration plant has initiated since August 2014 to showcase its developed technology for PCB recycling in India. This is the first e-Waste recycling plant in our country in the public domain. Based on this other projects may be initiated to setup the e-Waste recycling plant in other parts of our country. The project has been financially supported jointly by DeitY and Government of Karnataka. This plant would process 30MT of PCB per annum. The project for the recovery of metals from PCB would jointly be implemented by Centre for Materials for Electronics Technology (C-MET), Hyderabad and E-Parisara, Bangalore. This facility can be utilized by formal and informal sector.

### **Research and Development to Demonstrate conversion of e-Waste Plastics to value added products**

Novel recovery and conversion of e-Waste plastics to value added product had also been successfully developed at Central Institute of Plastics Engineering & Technology (CIPET), Bhubaneswar- Autonomous academic institute under Department of Chemical & Petrochemicals, Ministry of

Chemicals & Fertilizers, Government of India. E-Waste contains nearly 27% of the plastics. The outcome of the project was to develop an environment friendly process to convert these plastics with improved performance. The developed process is capable to convert majority (76%) of the waste plastics to suitable master batch, which could be used for virgin plastic products. The toxicity and environmental tests were carried out on the developed products from the master batch, showed acceptable standard. A technology transfer of the master batch developed is in progress.

### **Establishment of Restriction of Hazardous Substances (RoHS) Testing facility in India.**

Development of modern electronic gadgets, such as, cell phone, iPod, Palm Top/ Laptop computers, etc. results in the high use of different hazardous substance. These hazardous substances used in various electronic equipments are very harmful for environment as well as for human body. In order to restrict these materials, including, Cadmium, lead, Hexavalent Chromium, Mercury and poly brominated compounds, European Union (EU) had issued a "Directive for Restrictive use of hazardous substances (RoHS)" and had banned importing these products in EU countries since 2006. In India, in e-Waste (Management and Handling) Rules 2011, the RoHS clause has been mandated from 1<sup>st</sup> May 2014. RoHS compliance is essential for selling products in India or for exporting. In view of this, DeitY had created world class, first government testing laboratory for hazardous substances present in electronics and electrical equipments at C-MET, Hyderabad and to issue internationally valid certificate, as per ISO 17025. To restrict the use of hazardous substances properly, it is also necessary to establish more RoHS Testing facility in other part of country. Efforts are being made to establish this lab as reference lab in the country."

10.3 On the issue of comparison of R&D initiatives on e-Waste management in India with the other advance countries the Ministry of Communications and IT (DeitY) in their reply dated 28 March, 2016 submitted as under:-

"India is in the nascent stage of the e-Waste management, as generation of e-Waste is less than 2Kg/per habitant, whereas, global generation is 5.9Kg/inh. Europe and America are generating 15.6Kg/inh and 12.2Kg/inh respectively.

Research and development, being carried out to establish e-Waste recycling technology in the country, is following the global trend and best practices. Some of the technologies have been suitably modified leveraging the cost-effective manpower available in the country. These technologies require demonstration stability for suitable commercial exploitation.

In advance countries, collection system is more effective since the generated electronics waste is channelized to the organised sector. However, in India, material flow to orgained sector needs to be made more effective so that slippage of material to the unorganised sector could be arrested. The proposed amendment of the e-Waste Rule, would ensure effective Extended Producers Responsibility (EPR) for manufacturers so that target of the collections of e-Waste can be decided.

DeitY is not aware of any such international agency involved in rating the country's performance w.r.t the e-Waste management."

10.4 When clarification was sought on the completion of the various projects of DeitY relating to e-Waste management and their reach covering all the extracts of e-Waste, the Ministry of Communications and IT (DeitY) vide their reply dated 28 March, 2016 submitted the following:

DietY has initiated a demonstration plant of e-Waste recycling at Bengaluru employing indigenous technology. The stabilisation of technology and its commercialisation viability would require some more time to establish. Once the existing demonstration

plant becomes successfully operational, DeitY would explore the possibility of initiating more such units.

The aforesaid demonstration plant will be capable of processing the printed circuit board, components, IC and various small components, connectors and cable available in the mother board in the environmental means.

The e-Waste also contains plastics, nearly 25% of its weight. In another project, DeitY has established in demonstration of converting this plastics to virgin master batch, which could be used for value added products. This project was successfully implemented at the Central Institute of Plastics Engineering & Technology (CIPET), Bhubaneswar and is available for transfer of technology to suitable company on non-exclusive basis.

E-Waste composed of various other products like lithium ion battery, compact fluorescent lam, display panels, etc. These products also require suitable recycling technology to recover resource materials. DeitY is nurturing appropriate recycling technology to find out suitable cost effective solution for these products as well. Various laboratories in India are engaged in carrying out research in developing environmental sound process of e-Waste products and components".

10.5 The sufficiency of indigenous R & D efforts was described by the Ministry of Communications and IT (DeitY) vide their reply dated 28 March, 2016 as under:-

The successful indigenous R&D projects would definitely compliment the efforts of the local companies, who are searching for the expensive imported technologies. Moreover, successful foreign technology uses mixed input feed (ore and e-Waste) and requires significantly higher energy, which is challenge in India. The technology demonstrated by DeitY uses only the e-Waste as input feed with lower processing energy.

As of now, it appears that e-Waste recycling process is not commercially viable in India, as neither foreign investments nor large scale industry have entered this business in order to sustain".

10.6 As regards the studies in e-Waste management, the Ministry of Communications and IT (DeitY) vide their reply dated 28 March, 2016 stated as under:-

"The researchers and academicians engaged in R&D projects on e-Waste recycling in the country submit their project proposals after adequately studying the international best practices and reported research outcomes in peer reviewed journals. As indicated earlier, in order to work towards the mission and strategies, a working group was formed with representation from academics, industry and Government Ministries/Departments from various domain and fields of material, photonics and e-Waste to identify the suitable project proposals from R&D organisations.

DeitY has constituted a working group, comprised of eminent academicians, researchers and Industrialists to review and screen these proposals before identifying for financial support. DeitY supported R &D project has been taken to demonstration stage. The outcome of the project such as research papers, patents have been appreciated in international fora".

## PART-II

### OBSERVATIONS AND RECOMMENDATIONS

#### Rules Governing e-Waste

The Committee note that the term e-Waste broadly connotes wastes from electrical and electronic equipment (EEE) which are intended to be discarded. e-Waste is categorized as hazardous waste due to the presence of toxic materials such as mercury, lead and brominated flame retardants and may also contain precious metals such as gold, copper and nickel and raw materials such as indium and palladium. The Committee note that during the last decade, there has been an exponential increase in the generation of e-Waste all across the world including India and according to Central Pollution Control Board's (CPCB) estimate, 1,46,800 metric tons (MT) of e-Waste was generated in India in the year 2005 which increased to an estimated 8,00,000 MT by 2012, and 16.4 lakh MT by 2014. Considering that India is going through an exciting phase of development and economic transformation, the Committee are apprehensive that the quantum of e-Waste generation is likely to assume alarming proportions in the coming years posing a serious threat to the environment. In this context, the Committee, feel extremely worried and perturbed to find that no serious efforts have been made in the past to address this escalating issue of environmentally sound management of e-Waste being generated in the country. Although the Government of India notified the Hazardous Waste (Management and Handling) Rules way back in 1998 under the Environment

(Protector) Act, 1986 and also brought some amendments therein from time to time, but the distinct and the much delayed e-Waste (Management & Handling) Rules 2011 were notified and made effective from 1 May, 2012. These Rules are applicable to every producer, consumer, collection centres of e-Waste, dismantler and recycler of e-Waste. For the first time in India, the concept of 'Extended Producer Responsibility (EPR) was enshrined in the Rules making the producers of EEE responsible for ensuring environmentally sound management of the e-Waste generated from their equipment. However, taking cognizance of the unsatisfactory working and compliance of the various provisions of the Rules, the Ministry of Environment, Forests and Climate Change amended these Rules by notifying the e-Waste (Management) Rules, 2016 on 23 March, 2016 which are to come into force with effect from 16 October, 2016 and are intended to cure the defects and shortcomings of the Rules of 2011.

In the above backdrop, the Committee express their serious concern over the handling of such an environmentally sensitive issue of e-Waste management and feel that the Government have done too little and too late to address such a serious looming hazard. The Committee are of the considered view that merely notifying the Rules is not enough until or unless there is strong and effective implementation and monitoring mechanism coupled with the availability of the necessary infrastructural facilities for ensuring compliance of the Rules. The Committee, therefore, strongly recommend that the Government must evolve a robust mechanism and ensure creation of adequate infrastructural facilities in the country so

that the Rules could be implemented in an effective, efficient manner and within the given time line. The Committee would like to be apprised of the overall impact of the Rules on containing environmental degradations.

## 2. Poor Submission of Annual Returns by State Pollution Control Boards

The Committee note that compilation of information on the inventory of e-Waste is a necessary pre-requisite for any policy making and management at any level. In this context, the Committee note that as per Rule 15 of the e-Waste (Management and Handling) Rules, 2011, the State Pollution Control Boards (SPCBs)/ State Pollution Control Committees (SPCOs) are required to prepare and submit Annual Reports to Central Pollution Control Board (CPCB) by 30<sup>th</sup> September of every year with regard to e-Waste handling to the Central Pollution Control Board which in turn will prepare a consolidated Annual Review Report and forward the same to the Central Government before 30<sup>th</sup> December, every year. The Committee also appreciate the efforts made by the Ministry in formulating new Form for compilation of e-Waste information which is comprehensive enough to make things easier and less complex. The Committee, however, are appalled to find that around half of the State Pollution Control Boards (SPCBs) have not submitted their Annual Returns regarding inventorisation of e-Waste to the Central Pollution Control Board (CPCB) as most of the SPCBs have been consistently defaulting on submitting annual reports over last 3 years. The Committee consider it a serious lapse on the part of SPCBs, CPCBs as well as the Ministry. In their considered view, such poor performance in submission of Annual Returns by SPCBs has the effect of derailing the entire process of collecting information and monitoring implementation of the Rules in an effective manner. The Committee, therefore, strongly recommend that the Ministry of Environment, Forests and Climate Change must reign in the erring SPCBs and ensure strict

compliance of the Rules. The Committee also agree with the suggestion for establishment of separate e-Waste management division/unit in SPCBs/PCCs, by making the provision of their incorporation under the Rules headed by an officer of adequate seniority and practical experience. The Committee also recommend that the requisite amendment in this regard be carried out in the Rules at the earliest and the Committee apprised.

### 3. Need for Prevention of Illegal Trade in Electrical and Electronic Equipment (EEE)

The Committee note that import / export of e-Waste including second hand electrical and electronic equipment (EEE) are regulated under the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008. Although no country legitimately allows export / import of e-Waste, the second hand EEE are imported in the country for various purposes which include R & D, training, spare parts for warranty replacement, repairs, renting, etc. and the ban on such import may significantly hamper the electronic industry and reduce the foreign investments. According to the Ministry, all such imports are in line with the international practices being followed globally and the Department of Electronic and Information Technology (DeiTy) is taking a guarded approach while forwarding recommendations to Director General of Foreign Trade (DGFT) for grant of permission for import of second hand EEE. The Committee acknowledge the various measures taken by the Ministry to prevent/restrict import of second hand EEE. The Committee, however, are apprehensive of the fact that despite the measures taken by the Ministry, the import of second hand EEE goods certainly pose a threat of accumulation of e-Waste in the country. Further, even in case of the first hand goods, the cheaper imported goods which may or may not be of good quality and longer life span, the danger of escalation of e-Waste looms large over the country. The Committee, therefore, urge the Ministry to be vigilant so that the country does not become a dumping yard for imported

or clandestinely smuggled e-Waste. The Committee are also aware that illegal trade in the EEE poses a serious challenge to the e-Waste Management. The Committee therefore, recommend that the Ministry of Environment, Forest and Climate Change (MoEFCC) should take suitable measures to sensitise the law enforcing agencies to the provisions of the aforesaid Rules as well as the threat posed by the illegal trade in EEE goods.

#### 4. Need for Fiscal Incentives to the e-Waste Processing Industry

The Committee note that the e-Waste Rules of 2016 cast certain responsibilities on State Governments for ensuring environmentally sound management of e-Waste. For instance, the Department of Industry in a State or any other Government Agency authorised in this regard has been mandated to ensure allocation of industrial space for e-Waste dismantling and recycling in the existing or upcoming industrial parks. The Department of Labour has been tasked with responsibility to ensure reorganisation and registration of workers involved in dismantling and recycling besides undertaking industrial skill development activities. Further, the Committee are of the considered view that tax concessions and other incentives are very crucial for encouraging the development of the e-Waste Management Industry in the country where the demand for electronic goods is growing by leaps and bounds. Notably, the incentives to the consumers for returning the e-Waste to the recycling units or producers are also an essential concomitant to the chain of managing the e-Waste in the country. The Committee strongly recommend that the Government come out with more tax concessions and incentives for the e-Waste generating industry so that e-Waste management becomes an enduring success story.

## 5. Need for e-Waste Collection in Organised Manner.

The Committee note that the Producers, Consumers, Refurbishers, and Collection Centres, etc. play a very vital role in the safe disposal and management of e-Waste. The Committee also note that the role, functions and responsibilities of each of these bodies have been prescribed in a very comprehensive manner under the e-Waste (handling) Rules, 2016. The Committee, however, note that presently, there is a complete absence of any system of collection of e-Waste by authorised collection centres or the producers of the equipment and majority of the e-Waste generated in India lands in informal sector.

As a result, more than 95% of the e-Waste generated in India is handled by the informal recyclers of e-Waste thereby posing a serious threat to the environment and health risks to the workers on account of absence of any kind of professional skills and Technology for safe handling of e-Waste. The Committee note that informal recyclers enjoy a far greater reach to e-Waste as compared to the formal recyclers. The Committee, therefore, urge the Government to explore the feasibility to integrate the informal recyclers with the formal recyclers so that the potential of large number of workers, who have greater accessibility to the e-Waste, among informal recyclers is harnessed properly and that all the stakeholders involved are benefited. This would also result in improvement of the health conditions of workers active in the e-Waste recycling in the informal sector.

In addition to this, the Committee further recommend for concerted efforts to be made by the Government as well as other stakeholders for setting up of sufficient number of e-Waste collection centres all across the country and ensuring their easy and convenient accessibility to all the concerned persons / organisations.

## 6. Implementation of Penal Provision

The Committee note that Rule 21 of the e-Waste Management Rules of 2016 prescribes liabilities of manufacturers, producers, importers, transporters, dismantlers, recyclers, collection Centres, dealers, refurbishers, etc. in discharging their functions as defined under in the e-Waste handling Rules and making them liable for all the damages caused to the environment or third party due to improper handling and management of e-Waste and to pay financial penalties as levied for any violation of the provisions under the Rules by the concerned State Pollution Control Boards with prior approval of the Central Pollution Control Board. The Committee feel that the penal provisions can have the desired effect only when their implementation is effective. The growth of the informal sector among the recyclers as discussed in previous chapter is the result of poor and ineffective implementation of the penal provisions. The Committee are dismayed at the non-compliance of the rules by the State Pollution Control Board (SPCB) of many States in the matter of furnishing the annual returns to the Central Pollution Control Board (CPCB) as detailed elsewhere in this report. If such is the state of affairs of Governmental agencies, the Committee wonder, how the non-governmental agencies concerned with the e-Waste can be held responsible. The Committee wish to reiterate that a sound democracy presupposes rule of law enforced equally binding all entities and institutions including the State itself. The Committee, therefore, recommend that the MOEFCC strengthen implementation

mechanism of the Rules and any kind of violation of the e-Waste rules should be dealt with sternly by imposing the prescribed penalties.

## 7. Funds for Training and Capacity Building Programme

The Committee note that the availability of adequately skilled manpower in appropriately handling the ever growing e-Waste in the country is a sine qua non for effective e-Waste management. In this context, the Ministry of Environment, Forest and Climate Change have informed the Committee that the E - Waste Rules of 2016 lay emphasis on training and skill development. The Committee, however, feel concerned to find that the Department of Electronic and Information Technologies (DeiTy), entrusted with the task of developing technology to recycle e-Waste in an environment friendly manner, have not initiated any programme on skill development and training in handling e-Waste. Moreover, the Central Sector Scheme "Creation of Management Structure for Hazardous Substances" of the Ministry of Environment, Forest and Climate Change has not been much successful. The Committee also find that the funds allocated for the scheme by the Ministry over the last four years have remained very erratic. The amount allocated in 2012-13 was Rs 14,00,000 which came down to Rs 4,00,000 during 2013-14, and then in 2014-15 increased to Rs 18,54,797 and now in 2015-16 it plummeted to Rs 19,992. Moreover, the Ministry admitted that the impact of the capacity building under the e-Waste (Management & Handling) Rules, 2011 had not achieved the desired results. The Committee therefore, conclude that not much has been done so far towards creation of adequate skilled manpower required for effective handling of e-waste and launch of any effective capacity building programmes in the country. The Committee are of the

considered opinion that in the absence of adequate skilled manpower, the e-Waste handling Rules cannot be properly implemented. The Committee, therefore, strongly recommend that Ministry should re-emphasise on training & capacity building programmes and more funds should be allocated to this effect in a consistent manner for desired results.

## 8. Awareness Programmes

The Committee note that the very backbone of the campaign for management and handling of e-Waste is embedded in the awareness programme. Notably, the Ministry accepted candidly that the major drawback of the e-Waste (handling and management) Rules, 2011 was the lack of thrust on creation of awareness the consumers and public at large in handling the e-Waste. The Committee, therefore, hardly need to emphasise that the awareness creation should remains a constant focus for effective implementation of e-Waste rules and the Ministry should make more serious efforts in the spread of awareness programmes and the onus of these programmes should rest with everyone associated with management of e-Waste. The Committee also strongly emphasise that the e-Waste management should invariably be incorporated in the curriculum in schools and colleges so that the future generations are sensitised of the e-Waste management practices and the need therefor.

## 9. Research and Development (R&D)

The Committee note that research and development in the technology pertaining to the management of e - waste in an environmental friendly manner falls within the domain of the Department of Electronic and Information Technology who have initiated a number of R & D projects at various National Institutions in India. In this regard, the Committee note the status of various R&D projects like: (i) the processing technology for recycling of e-Waste through physical separation and chemical leaching methods developed at National Metallurgical laboratory (NML), Jamshedpur has yet to be commercialised; (ii) the recovery process of precious metals from Printed Circuit Board had been successfully developed by Centre for Materials for Electronics Technology (C-MET), Hyderabad; (iii) recovery and conversion of e-Waste plastics to value added products had been successfully developed at Central Institute of Plastics Engineering & Technology (CIPET) - Bhubaneswar; (iv) establishment of first Govt. testing laboratory for hazardous substances pertaining to electronics and electrical equipment at C-MET, Hyderabad. The Committee express their satisfaction at such initiatives, and feel that it would go a long way in helping local companies to utilise these indigenous technologies which are less expensive alternatives to the imported technologies. The Committee are, however, at the same time worried that the various e-Waste recycling R&D processes developed under DeitY have not so far become commercially viable due to lack of financial assistance and also due to lack of interest by the industry. The Committee, therefore, recommend that the DeitY,

responsible for Research and Development in the e-Waste management technology, should make concerted efforts in-cooperation and coordination with the Ministry of Environment, Forest and Climate Change so as to extend financial assistance to companies making foray into e-Waste recycling or make the technology cost effective and also promote public private partnership in this field. The Committee are also of the considered view that the DeitY should go full throttle in exploiting the talent across the country and across institutions of scientific excellence to promote research in the field of e-Waste management.

## 10. Need for a separate Legislation

The Committee note that unlike the management and handling of other environmental pollution areas concerning air, water, hazardous waste, etc., the management, handling and recycling of e-waste is a highly specialized field which requires high level of technical knowledge, expertise and sufficiently skilled manpower. In this context, the Committee feel that the present setup of management of e-Waste under the Environment Protection Act, 1986 and the rules framed there under have failed to yield any tangible results. Moreover, the Central Pollution Control Board and the State Pollution Control Boards, which have been assigned a major role in implementation of e-waste handling rules, neither possess the skilled manpower nor the technical expertise on various aspects of e-waste. Taking into consideration the alarming growth in the generation of e-waste in the country, the Committee are anguished to find that there is no independent and effective legislative framework to tackle the growing menace of e-Waste. It is a common sight that the local waste collector (Kabadiwala) is collecting all kind of discarded electrical and electronics goods from the doorsteps of the homes and waste dump sites. These Kabadiwala (waste collectors) who do not have much knowledge of the dangers posed by the dismantling of such hazardous equipments, generally take out the useful parts and throw rest of the things in dustbin or burn them causing serious damage to the environment. There have also been serious instances when in the process of disintegration / segregation of such items, they were severely injured.

The Committee, therefore, are of the considered view that in order to tackle the issue of e-waste handling and management in any effective and meaningful manner, the Government may consider the desirability of bringing a separate legislation on e-waste instead of handling it under the Environment Protection Act. Such legislation may prescribe for establishment of a central authority /central public sector undertaking having experts from IT field and other technical domains possessing knowledge of e-waste disposal, management and recycling techniques and its own e-waste collection centre/ recycling plants with state-of-art technologies, in all major cities of the country. The law should make it mandatory that the e-waste generated from various government departments/public sector undertakings all over the country as well as by entities and individuals, big or small industrial houses, educational institutions, etc. shall be deposited at the designated collection centres of the said CPSU, as in the considered view of the Committee, if a government body is entrusted with this job it will be done in a methodical and safe manner and will ensure that e-waste does not create environmental pollution. The rules and regulations in this regard can be framed accordingly so that a beginning is made in the country. The Committee would like to be apprised of the action taken by the Government in this regard.

The Committee would like to be apprised of the action taken by the Government on the recommendations contained in the Report within three months of the date of presentation of the Report.

New Delhi;  
August ,2016  
Sravana, 1937 (Saka)

DILIPKUMAR MANSUKHLAL GANDHI  
*Chairperson,*  
*Committee on Subordinate Legislation*



**Ministry of Communications and Information Technology (Department of Electronics and Information Technology)**

- |    |                      |   |                 |
|----|----------------------|---|-----------------|
| 1. | Shri Devashish Dutta | - | Senior Director |
| 2. | Dr Sandip Chatterjee | - | Director        |

2. At the outset, the Chairperson welcomed the Members of the Committee.

3. Thereafter, the representatives of Ministry of Environment, Forests and Climate Change (MoEF&CC) and Ministry of Communications and Information Technology (Department of Electronics & Information Technology) (DeitY) were called in. The Chairperson welcomed the representatives to the sitting of the Committee and drew their attention to Direction 55(1) of the Directions by the Speaker regarding confidentiality of the proceedings. The Committee were then briefed by the representatives on the subject 'Rules/Regulations governing E- waste management in the country'.

4. The representatives of the MoEF&CC who are the nodal Ministry for framing of E-Waste Management Rules at the outset made a Power Point Presentation and briefed the Committee on issues like policy of the Government on management and handling of the e-waste, the rules/regulations in existence or proposed to be framed for implementation of the policy, quantum of e-waste generated in the country, global practices followed in handling the e-waste, impact of e-waste on environment and the studies, made in this regard, adequacy of the existing statutory provisions and the availability of suitable monitoring and implementation mechanism. Thereafter, the Committee deliberated on various issues broadly covering aspects such as quantum, generation & recycling, of e-waste, constraints in implementation of rules, enforcement mechanism for controlling e-waste, awareness initiatives , role of dismantlers/recyclers, Central & State Pollution Control Boards, highlights of proposed legislation, research & development programmes etc.

5. The representatives of both the Ministries furnished clarifications on the queries raised by the Committee. On some of the points, the information on which was not readily available, the representatives were asked to furnish written replies on the same within 15 days to the Lok Sabha Secretariat.

6. The Chairperson then thanked the representatives of both the Ministries for presenting their inputs on the subject before the Committee.

The witnesses then withdrew.

7. A verbatim record of the proceedings of the sitting has been kept separately.

The Committee then adjourned.

## EXTRACTS FROM MINUTES OF THE THIRTEENTH SITTING OF THE COMMITTEE ON SUBORDINATE LEGISLATION (2015-2016)

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The Thirteenth sitting of the Committee (2015-16) was held on Monday, the 8<sup>th</sup> August, 2016 from 1500 to 1600 hours in Committee Room 'E', Parliament House Annexe, New Delhi.

### PRESENT

1. Shri Dilipkumar Mansukhlal Gandhi      Chairperson

### MEMBERS

2. Shri Idris Ali.
3. Shri Birendra Kumar Chaudhary
4. Shri S.P. Muddahanume Gowda
5. Shri Shyama Charan Gupta
6. Shri Jhina Hikaka
7. Shri Chandulal Sahu
8. Shri Ram Prasad Sarmah
9. Adv. Narendra Keshav Sawaikar

### SECRETARIAT

1. Shri Ajay Kumar Garg      -      Director
2. Shri Nabin Kumar Jha      -      Addl. Director
3. Smt. Jagriti Tewatia      -      Deputy Secretary

2. At the outset, the Chairperson welcomed the Members of the Committee.

3. Thereafter, the Committee considered and adopted the draft Fifteenth Report without any modification. The Committee also authorised the Chairperson to present the above Report to the House.

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The Committee then adjourned.

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\*\*Omitted portion of the Minutes are not relevant to this Report