APPENDIX-VII : INDUSTRIAL ESTATES AND EPZ

Narela Industrial Complex

Details of Land Use

Particulars	Area (Hect.)	Per centage of Total Area (%)
Total Gross Area of Scheme	247.67	100
Area beyond canal	4.86	2.0
Gross Area of Industrial Complex	242.81	98.0
Area under Indl. Plots	63.00	25.4
Area under Indl. Housing	19.86	8.0
Area under Institutional Sector 'I'	18.71	7.6
Area under Main Central Facility/Commercial Sector 'J'	11.79	4.8
Area under Smaller Facility Centre (7 nos.)	4.76	1.9
Area under Idle Car Parkings inside the Sectors	2.03	0.8
Under Electric Sub-Station	4.11	1.7
Area under Parks and Arboriculture	27.91	11.3
Open Green Area towards Village Shahpur (42.02 - 10.50)	31.52	12.7
Open Area under E.T.S.	10.50	4.2
Area under Circulation/Roads	38.92	15.7
Area under Sr. Secondary School	1.62	0.7
Area under Corners odd sized plots (85 nos.)	2.80	1.3
Area reserved for Joint Venture Scheme	5.28	2.1

Total no. of plots of the size of 350 sq.m. each for Industries in 7 Sectors.

* Sector 'I' reserved for Institutional use with: 1800 nos. provision for:

*(a) Telephone Exchange
(b) Post Office
(c) Fire Department
(d) D.T.C.
(e) C.W.C. for storage etc. Sector 'J' reserved for commercial use
(f) E.S.I. for Hospital-cum-Dispensary
(g) L.I.C.
(h) National Dairy Development Board
(i) Delhi State Civil Supplies Corpn.
(j) Industrial Training Institute

Cost per Square Metre for Development

Total Gross Area : 247.67 Hect.
Plotted Saleable Area : 104.90 Hect.

Sr. No.	Name of Item	Total Cost (Rs. in Lacs)	On Net Area (in Rs./Sq.M.)
1.	Land Acquisition cost	452.44	43.13
2.	Road and levelling & dressing	750.71	71.56
3.	Water supply	254.75	24.92
4.	Sewerage system and ETS	356.60	33.99
5.	Storm Water Drains and Culverts	570.00	54.34
6.	Land scaping & Horticulture	285.00	27.17
7.	Electricity (As per DESU demand)	1,142.00	108.87
8.	Administrative & other bldgs.	264.15	25.1
9.	Solid waste disposal management system	177.00	16.87
10.	Maintenance during construction	117.00	11.15
11.	Interest on Govt. Loans	1,356.44	129.31
12.	Departmental charges and contingencies	487.47	46.47
13.	Addl. levies of Delhi Admn. (Zonal Road construction, Village development fund and special levy)	158.47	15.11
14.	DSIDC margin on Rs. 4,478.98 (Rs. 6,372.03 - Rs. 1,625.00)	356.17	33.95
			641.39

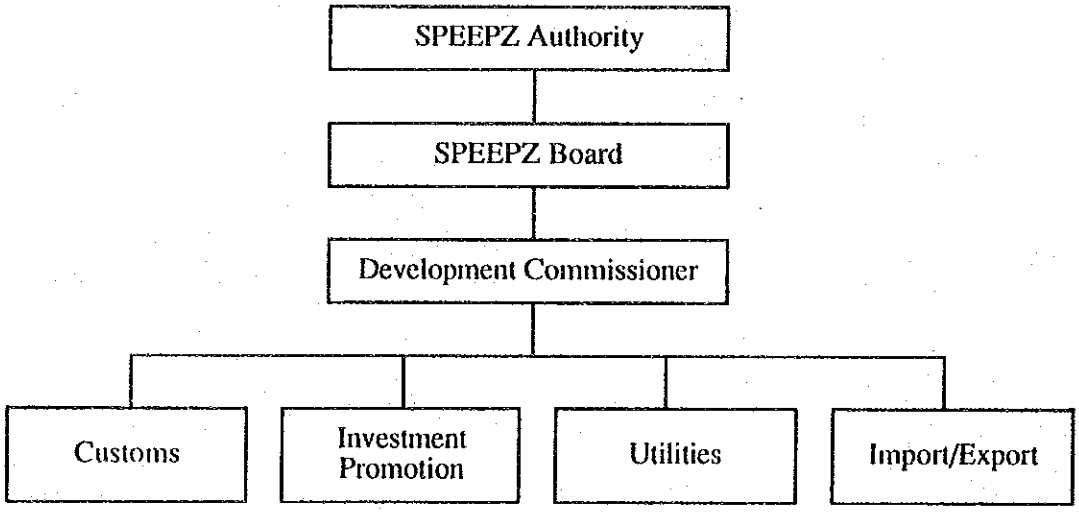
No. of Units in Production: SEEPZ

Year	Target for exports (Fig. Rs. in crores)	Actual exports (Fig. Rs. in crores)	Growth Rate (Annual)	No. of units in production
1987-88	110.00	110.14	11%	74
1988-89	140.00	185.19	68%	87
1989-90	200.00	290.35	56%	89
1990-91	335.00	389.02	34%	101
1991-92	475.00	500.14	28%	118
1992-93 (As on 15.2.93)	650.0	625.75	–	125

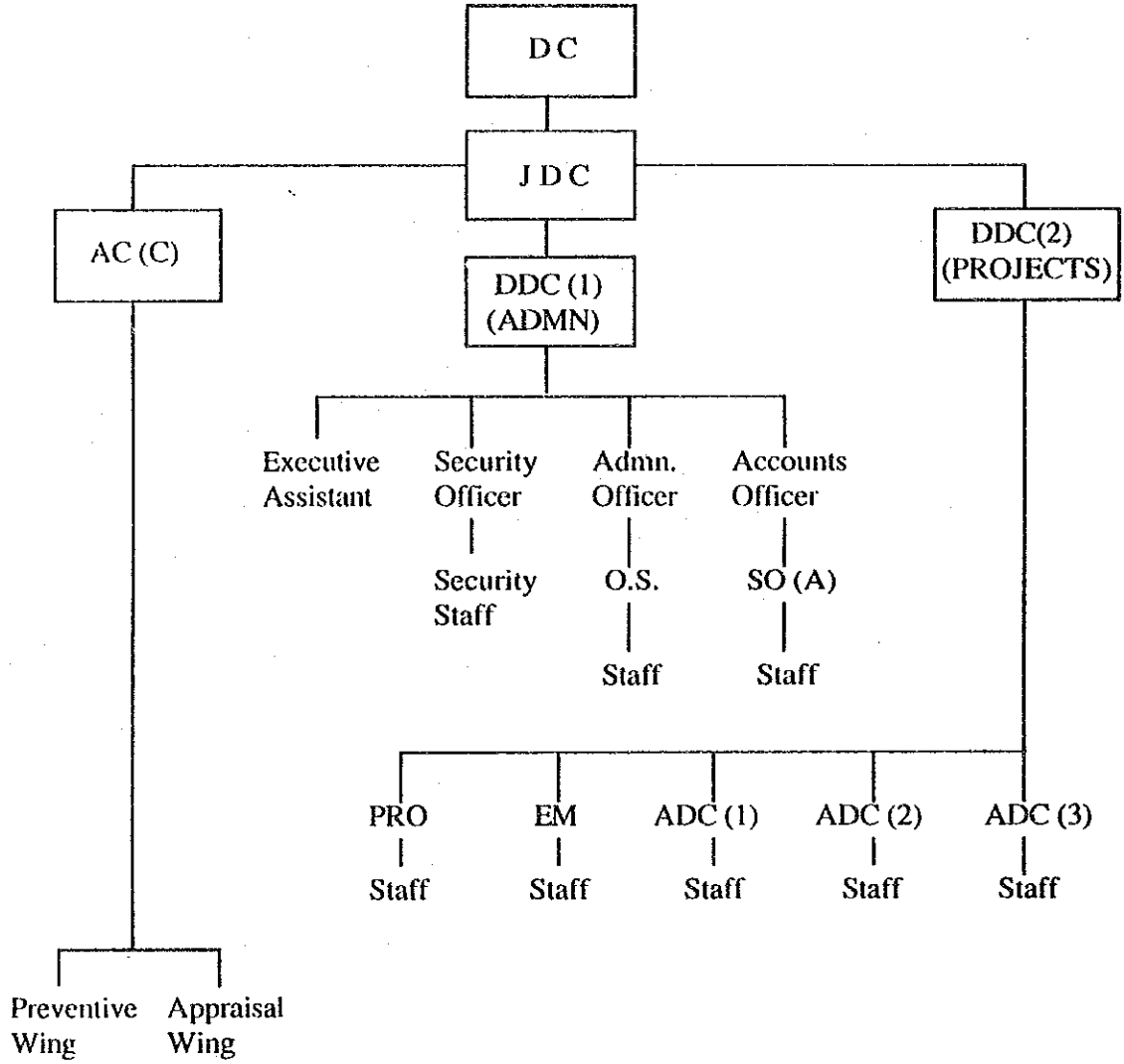
SEEPZ Exports

Year	Country's exports (Figs. Rs. in millions)	SEEPZ exports (Figs. Rs. in millions)	% of SEEPZ exports to country's exports
Electronics			
1989	7,840	1,909	25%
1990	9,300	2,721	29%
1991	9,000	2,291	25%
Gold jewelry			
1989-90	2,830	515	18%
1990-91	3,640	800	22%
1991-92	7,391	1,636	22%

ORGANISATION Chart of Santacruz Electronics EPZ



Organisation Chart of Madras EPZ



Abbreviation

DC	:	Development Commissioner
JDC	:	Joint Development Commissioner
AC(C)	:	Assistant Collector (Customs)
DDC	:	Dy. Development Commissioner
PRO	:	Public Relation Officer
EM	:	Estate Manager
ADC	:	Assistant Development Commissioner
O.S.	:	Office Superintendent
SO(A)	:	Section Officer (Accounts)

APPENDIX-VIII : ENVIRONMENTAL ASSESSMENT

Annex - 1 Siting Guidelines for Industries

The decision for siting an industry must follow the environmental guidelines provided by approprate central and state government authorities.

Also, industries must ensure optimum use of natural and man-made resources in a sustainable manner according to the Industries Development and Regulation Act.

(A) Areas to be avoided

(1) Ecologically and/or otherwise sensitive areas; at least 25 km.; depending on the geo-climatic conditions, the requisite distance shall have to be increased by the appropriate agency.

(2) Coastal Areas: at least 1/2 km. from high tide line.

(3) Flood Plain of the riverine Systems: at least 1/2 km. from flood plain or modified flood plain affected by dams in the upstream, or by flood control systems.

(4) Transport/Communication System: at least 1/2 km. from highway and railway.

(5) Major Settlements (3,000,000 population): distance from settlements is difficult to maintain because of urban sprawl. At the time of siting an industry, if any major settlement's notified limit is within 50 km., the spatial direction of growth of the settlement for at least a decade must be assessed and the industry shall be sited at least 25 km. from the projected growth boundary of the settlement.

Note: Ecological and/or otherwise sensitive areas include (i) Religious and Historic Places; (ii) Archeological Monuments (e.g. identified zones around the Taj Mahal); (iii) Scenic Areas; (iv) Hill Resorts; (v) Beach Resorts; (vi) Health Resorts; (vii) Coastal Areas rich in Corals, Mangroves, Breeding Grounds of Specific Species; (viii) Estuaries rich in Mangroves, Breeding Grounds of Specific Species; (ix) Gulf Areas; (x) Biosphere Reserves; (xi) National Parks and Sanctuaries; (xii) Natural Lakes, Swamps; (xiii) Seismic Zones; (xiv) Tribal Settlements; (xv) Areas of Scientific and Geological Interest; (xvi) Defense Installations,

particularly those of security importance and sensitive to pollution; (xvii) Border Areas (International) and (xviii) Air Terminals.

Pre-requisite:

State and Central Governments are required to identify such areas on a priority basis.

(B) Siting Criteria

Economic and social factors are recognized and assessed when siting an industry, and environmental factors must be taken into consideration in the initial industrial siting. Proximity of water sources, highway, major settlements, markets for products, and raw material resources are desired for economy of production, but all the above listed systems must be at required distances for environmental protection. Industries are, therefore, required to be sited, striking a balance between economic and environmental considerations. In such a selected site, the following factors must be recognized.

(1) No forest land shall be converted into non-forest activity for the sustenance of the industry (Ref: Forest Conservation Act, 1980).

(2) No prime agricultural land shall be converted into an industrial site.

(3) Within the acquired site, the industry must locate at the lowest location to remain obscured from general sight.

(4) Land acquired shall be sufficiently large to provide space for appropriate treatment of waste water still left for treatment after maximum possible reuse and recycle. Reclaimed (treated) waste water shall be used to raise the green belt and to create a water body for aesthetics, recreation and if possible, for aquaculture. The green belt shall be 1/2 km. wide around the battery limit of the industry. For industries with odour problems, it shall be a kilometre wide.

(5) The green belt between two adjoining large scale industries shall be one kilometre.

(6) Enough space should be provided for storage of soil wastes so that these could be available for possible reuse.

(7) The lay out and form of the industry that may be established in the area must conform to the landscape of the area without affecting the scenic features of the environment.

(8) Associated township of the industry must be created at a space having physiographic barrier between the industry and the township.

(9) Each industry is required to maintain three ambient air quality measuring stations within 120 degree angle between stations.

Annex - 2. Environmental Impact Assessment (EIA)

(A) Projects that Require an EIA

Projects that require an EIA are listed below. Accordingly, Polluting Industries (21 types) are selected.

(1) Those which can significantly alter the landscape, land use pattern, and lead to concentration of the working and service population;

(2) those which need upstream development activity like assured mineral and forest products supply or downstream industrial process development;

(3) those involving manufacture, handling and use of hazardous materials;

(4) those which are sited near ecologically sensitive areas, urban centres, hill resorts, places of scientific and religious importance; and

(5) industrial estates with constituent units of various types which could cumulatively cause significant environmental damage.

(6) List of Polluting Industries

1) Ferrous Metallurgical Industries
2) Non-Ferrous Metallurgical Industries
3) Mining Industries
4) Ores/Mineral Processing Industries
5) Coal (including coke) Industries
6) Power Generating Industries
7) Paper and Pulp (including paper products) Industries
8) Fertilizer Industries
9) Cement (including cement asbestos products) Industries
10) Petroleum Industries
11) Petrochemicals Industries
12) Drugs and Pharmaceuticals Industries
13) Fermentation Industries
14) Rubber (Natural & Synthetic) including Rubber Products Industries
15) Paints Industries

16) Leather Tanning Industries
17) Electro-Plating Industries
18) Chemical Industries
    - Coke Oven By-Products and Coal Tar Distillation Products
    - Industrial cases (nitrogen, oxygen, acetylene, argon, carbon dioxide, hydrogen, sulphur dioxide, nitrous oxide, halogenated hydrocarbon, ozone, etc.)
    - Industrial Carbon
    - Alkalis
    - Electrochemicals (metallic sodium, potassium and magnesium, chlorates, per chlorates, and peroxides)
    - Electrothermal Products (artificial abrasive, calcium carbide)
    - Phosphorous and its Compounds
    - Nitrogenous Compounds (cyanides, cyanamides, and other nitrogenous compounds
    - Halogens and Halogenated Compounds (Chlorine, Fluorine, Bromine and Iodine)
    - Explosives (including industrial explosives and detonators and fuses)
19) Insecticides, Fungicides, Herbicides and other Pesticides Industries
20) Synthetic Resin and Plastics
21) Manmade Fibre (Cellulosic and non-cellulosic industry).

(B) The EIA should address the factors listed below:

(1) Meteorology and air quality
(2) Hydrology and water quality
(3) Site and its surroundings
(4) Occupational safety and health
(5) Details of the treatment and disposal of effluents (liquid, air and solid), and the methods of alternative uses.
(6) Transportation of raw material and details of material handling.
(7) Impact on sensitive targets.
(8) Control equipment and measures proposed to be adopted.

(C) The management plans should be based on the consideration of resource conservation and pollution abatement, some points of which are enumerated as under:

(1) Liquid Effluents
(2) Air Pollution

(3) Solid Wastes
(4) Noise and Vibration
(5) Occupational Safety and Health
(6) Prevention Maintenance and Operation of Environmental Control Systems
(7) Housekeeping
(8) Human Settlements
(9) Transport Systems
(10) Recovery - reuse of waste products
(11) Vegetal Cover
(12) Disaster Planning
(13) Environmental Management Cell

Annex - 3. Pollution Control Standards

(A) Effluents Discharge Standards

(1) The general standards for discharge of effluents are classified into four classes. By this standard, concerned state authorities provide administrative guidelines for industries.
Table 3-1 gives those details.

(2) Standards for industrial discharge of effluents. (Refer to Table 3-2)

(B) Industrial Emissions Dust Standards. (Refer to Table 3-3)

(C) Ambient Air Quality Standards regarding noise levels. (Refer to Table 3-4)

(D) The Hazardous Waste Management and Handling
The categories of hazardous wastes are given in Table 3-5.

Table 3-1 General Standards for Discharge of Effluents

SI No.	Parameter	Standards			
		Inland surface water	Public sewers	Land for irrigation	Marine coastal areas
1	2	3			
		(a)	(b)	(c)	(d)
1.	Colour and Odour	See Note 1	-	See Note 1	See Note 1
2.	Suspended solids, mg/l, Max	100	600	200	(a) For process waste water- 100 (b) For cooling water effluents- 10 per cent above total suspended matter of effluent cooling water.
3.	Particle size of suspended solids	Shall pass 850 micron IS Sieve	-	-	(a) floatable solids, Max 3 mm. (b) Settleable Solids, Max 850 microns.
4.	Dissolved solids (organic), mg/a, Max.	2,100	2,100	2,100	-
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature, °C. Max.	Shall not exceed 40 in any section of the stream within 15 metres down stream from the effluent outlet	45 at the point of discharge	-	45 at the point of discharge
7.	Oil and grease mg/I, Max.	10	20	10	20
8.	Total residual chlorine, mg/l, Max.	1.0	-	-	1.0
9.	Ammonical nitrogen (as N), mg/I, Max.	50	50	-	50
10.	Total Kjeldabl nitrogen (as N) mg/I, Max.	100	-	-	100
11.	Free ammonia (as NH_3), mg/I, Max.	5.0	-	-	5.0
12.	Biochemical oxygen demand (5 days at 20C), Max.	30	350	100	100
13.	Chemical oxygen demand, mg/l, Max.	250	-	-	250
14.	Arsenic (as As), mg/l, Max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg), mg/l, Max.	0.01	0.01	-	0.01

1	2	3			
		(a)	(b)	(c)	(d)
16.	Lead (as Pb.) mg/l, Max.	0.1	1.0	-	1.0
17.	Cadmium (as Cd), mg/l, Max.	2.0	1.0	-	2.0
18.	Hexavalent chromium (as Cr+6), mg/l, Max.	0.1	2.0	-	1.0
19.	Total chromium (as Cr), mg/l, Max.	2.0	2.0	-	2.0
20.	Copper (as Cu), mg/l, Max.	2.0	3.0	-	3.0
21.	Zinc (as Zn), mg/l, Max.	5.0	15	-	15
22.	Selenium (as Se), mg/l, Max.	0.05	0.05	-	0.05
23.	Nickel (as Ni), mg/l, Max.	3.0	3.0	-	5.0
24.	Boron (as B), mg/l, Max.	2.0	2.0	2.0	-
25.	Per cent sodium, Max.	-	60	60	-
26.	Residual sodium carbonate, mg/l, Max.	-	-	5.0	-
27.	Cyanide (as CN), mg/l, Max.	0.2	2.0	0.2	0.2
28.	Chloride (as Cl), mg/l, Max.	1,000	1,000	600	-
29.	Fluoride (as F), mg/l, Max.	2.0	15	-	15
30.	Dissolved Phosphates (as P), mg/l, Max.	5.0	-	-	-
31.	Sulphate (as SO_4), mg/l, Max.	1,000	1,000	1,000	-
32.	Sulphide (as S), mg/l, Max.	2.0	-	-	5.0
33.	Pesticides	Absent	Absent	Absent	Absent
34.	Phenolic compounds (as C_6H_6OH), mg/l, Max.	1.0	5.0	-	5.0
35.	Radioactive materials:				
	(a) Alpha emitters MC/ml, Max.	10^{-7}	10^{-7}	10^{-8}	10^{-7}
	(b) Beta emitters MC/ml, Max.	10^{-8}	10^{-8}	10^{-7}	10^{-8}

Note 1. All efforts should be made to remove colour and unpleasant odour as for as practicable.

Note 2. The standards mentioned in this notification shall apply to all the effluents discharged, such as industrial mining and mineral processing activities, municipal sewage etc.

Note 3. This notification shall not apply to those industries for which standards have been notified by the Central Government *vide* S.O. 844(E), dated the November 19, 1986, S.O. 393(E) dated April 16, 1987, S.O. 443(E), dated April 28, 1987 and S.O. 64(E) dated January 18, 1988. This notification shall cease to apply with regard to a particular industry when specific standards are notified for that industry.

Table 3-3. Industrial Emissions Dust Standards

No.	Name	dust Standards (mg/Nm^3)
1.	Cement Plants 200 tonnes per day >200 tonnes per day	 400 250
2.	Stone-crushing unit	600 (Suspended Particulate matter)
3.	Alminium Calcination Smelting	 250 150
4.	Calcium Carbide Kiln Arc Furnace	 250 150
5.	Carbon Black	150
6.	Copper, Lead and Zinc Smelting	<0.4% oxides of sulphur of tonne stock
7.	Nitric Acid	<3 kg NOx/tonne of weak acid
8.	Sulphuric Acid	<4 kg SOx/tonne of acid produced
9.	Iron & Steel Sintering Plant Steel making During normal operation During oxygen lancing Rolling mill Coke oven	 150 150 400 150 <3 kg/tonne of coke produced
10.	Thermal Power Plants Cap>210 MW Cap<210 MW	 150 350
11.	Asbestor manufacturing	Pure Asbestors materials 4 Fibre/00 Total dust 2 mg/m^3 (normal)
12.	Color Alkali (a) Mercury Cell (b) All process (c) All process	 0.2 mg/NM^3 15 mg/Nm^3 350 mg/Nm^3 HCl
13.	Large pulp and paper	250 10 mg/Nm^3
14.	Integrated Iron and Steel Plants (a) Coke oven (b) Refractory material plant	 50 150
15.	Re-heating (Rever-beratoy)	150 Sensitive Area 450 Other Area

Table 3-4. Ambient Air Quality Standards in Respect of Noise

Area Code	Category of Area	Limits in dB(A)	Leg.
		Day Time	Nigh Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Note 1. Day time determined between 6 a.m. and 9 p.m.

Note 2. Night time is determined between 9 p.m. and 6 a.m.

Note 3. Silence Zones are defined as arcas upto 100 metres near the premises of hospitals, educational institutions, and courts. The Silence Zones are to be declared by a Competent Authority.

Use of vehicular horns, loudspeakers and bursting of fire crackers shall be banned in these zones.

Note 4. Mixed categories of areas can be declared as one of the above four categories by a Competent Authority, and the corresponding standards shall apply.

(D) Hazardous Waste Management And Handling

The management and handling of hazardous waste rules are applied by the Central Pollution Control Board. The rules are termed: The Hazardous Waste (Management and Handling) Rules, 1989.

The content of those rules follow:

(1) Hazardous waste shall be collected, treated, stored and disposed of only in such facilities as may be authorised for this purpose. Every occupier generating hazardous wastes and having a facility for handling wastes shall submit an application to the State Pollution Control Board.

(2) Before hazardous waste is delivered to a hazardous waste site, the occupier or operator of said facility shall ensure that the hazardous waste is packaged in a manner suitable for storage and transport.

(3) The state government, or an authorised representative, shall undertake an environmental impact study before identifying a site as a waste dispersal site in the state.

(4) The occupier and operator of a facility shall send annual reports to the state pollution control board.

(5) When an accident occurs at the facility or on a hazardous waste site, or during transportation of hazardous wastes, the occupier or operator of said facility shall report immediately to the state pollution control board the details of the accident and other proscribed information.

(6) The import of hazardous waste from any country to India shall not be permitted for the purpose of dumping and disposal of such wastes. However, import of such waste may be allowed for processing or reuse as raw material on the merit of case by case examination according to the state pollution control board, or by an authorised officer.

Table 3-5. Categories of Hazardous Waste

No.	Types of Waste	Regulatory Quantities
1.	Cyanide Waste	1 kg/year as cyanide
2.	Metal Finishing Wastes	10 kg/year as pure metal
3.	Waste containing water soluble chemical compounds of lead, copper, zinc, chromium, nickel, selenium, barium and antimony	10 kg/year as pure metal
4.	Mercury, Arsenic, Thallium and Cadmium bearing wastes	5 kg/year as pure metal
5.	Non-halogenated hydrocarbons including solvents	200 kg/year as nonkalogenated hydrocarbons
6.	Halogenated Hydrocarbons including solvents	50 kg/year as halogenated hydrocarbons
7.	Waste from paints, pigments, glue, varnish and printing ink	250 kg/year as oil or oil emulsion
8.	Waste from Dyes and Dye intermediates containing inorganic chemical compounds	200 kg/year as inorganic chemicals
9.	Waste from Dyes and dye intermediates containing organic chemical compounds	50 kg/year as organic chemicals
10.	Waste oil and oil emulsions	1,000 kg/year as oil and oil emulsions
11.	Tarry wastes from refining and tar residues from distillation or pyrolytic treatment	200 kg/year as tar
12.	Sludges arising from treatment of waste water containing heavy metals, topic organies, oils, emulsions and spent chemicals and incineration ash	Irrespective of any quantity
13.	Phenols	5 kg/year as phenols
14.	Asbestos	200 kg/year as asbestos
15.	Waste from manufacturing of pesticides and herbicides and residues from pesticides and herbicides formulation units	5 kg/year as pesticides and their intermediate products
16.	Acid/Alkaline/Slurry Waste	200 kg/year as Acids/Alkalis
17.	Off-specification and discharged products	Irrespective of any quantity
18.	Discarded containers and containers liners of hazardous and toxic chemicals and waste	Irrespective of any quantity