

ENVIRONMENTAL LAWS IN MINING

To mitigate and control environmental pollution and improve upon the health and welfare of persons employed in mines a large number of acts, rules, amendments, notifications have been brought out during the last three decades by the Nodal Ministries of the Govt. of India, Ministry of Environment & Forests, Ministry of Steel & Mines, the Ministry of Labour & Ministry of Industries.

Different regulatory bodies have been created both at the central and state level; like CPCB, SPCB for control of Water and Air Pollution; Chief Conservator of Forest (Zonal Office of the Forest Department of Central Govt.) and D.F.O./ C.O.F./P .C.C.F of State Govt. for Forest Conservation; IBM for Mineral Conservation and ,Environment Protection and approval of "Mining Plan" and "Mining Scheme" in the metal mine sector; State Directorates of Geology & mining and Department of Mineral / Natural Resources for granting lease deeds monitoring & registration of the lease deeds and collection of royalty.

SCENARIO OF RECENT LEGISLATIVE MEASURES ADOPTED IN INDIA

1. Water (Prevention and Control of Pollution) Act, 1974 and Rules made thereunder.
2. Water (Prevention. and Control of Pollution) Cess Act, 1977 and Rules made thereunder.
3. Air (Prevention and Control of Pollution) Act, 1981 and Rules made thereunder.
4. Creation of Central and State Pollution Control Boards.
5. 42nd amendment of the constitution -During 1976, inserting Article 48 (A) in Directive Principles and Articles 51(A)(g) in Fundamental Duties on protection of environment, and transfer of Forest and Wild Life from the State list to the concurrent list under entry 17 A and 17B.
6. Forest (Conservation) Act, 1980 with Amendment during 1992 and Rules made thereunder.
7. Amendment to Wild Life (Protection) Act, 1972 in 1991
8. Environment (Protection) Act, 1986 and Rules made thereunder.
9. Hazardous Wastes (Management & Handling) Rules -1989.
10. Public Liability (Insurance) Act, 1991 (to protect against 3rd party liability from accidents involving hazardous wastes and chemicals).
11. Manufacture, storage and import of Hazardous Chemicals Rules, 1989.

Notification under E.P. Act and Rules:

- a) Restriction on mining in Dehradun Valley;
- b) Restriction on mining in the Aravalli Hill range in Gurgaon and Alwar Districts;
- c) Restriction of milling in Coastal Regulation Zone (CRZ) i.e. within 500 m from High Tide Lines (HTL);
- d) Restriction of mining in wild life sanctuaries, National Parks, and adjoining National monuments, areas of cultural heritage, also in ecologically fragile areas, rich in biological diversity, genepool, etc.
- e) Projects -January 1994 (amended in May, 1994).

Till January 1994, obtaining environmental clearance from the Ministry of Environment and Forests (MOEF) was only an administrative requirement for large Public Sector Projects, and also for obtaining forest clearance for areas over 20 hectares, both for Public and Private Sector.

As per the above Environment Impact Assessment Notification all mining projects of major minerals with lease area of more than 5 ha. require environment clearance from the MOEF. In addition to the above, "site clearance" will be necessary for all mining projects irrespective of areas, and in respect of prospecting areas above 500 ha. .

Thus a new mining project has to take the following permits/ consents from different authorities:

a) Consent from the State Pollution Control Board for Water and Air Pollution Prevention and Control separately under the concerned two Acts.

b) Site clearance and environment clearances under EP Act from Ministry of Environment & Forests, New Delhi.

c) Forest clearance under Forest (Conservation) Act 1980 and Rules, if it is within the forest area.

d) Approval of "Mining Plan" by the Central Govt. (IBM -for metal mines).

e) Clearance for mining in the restricted areas/C.R.Z notified under EP Act.

In addition; many other statutory permissions may have to be taken from DGMS, Railways, P.W.D, Irrigation dept., local authorities, etc. depending upon the mine location.

SUBMISSION OF RETURNS AND REPORTS

Monthly Return

Under Rule 4 of the, Water (Prevention and Control of Pollution) Cess Rules 1978, every consumer of the specified industry has to furnish return in Form I every month giving consumption of water from different sources, and report of analysis of the treated effluents.

Quarterly Report

Most of the SPCBS have directed the specified industries to submit quarterly report under (a) Water and (b) Air (Prevention and Control of Pollution) Acts and Rules while giving consent, stating quality standards of water and air discharged/emitted by the industry.

Half yearly Report and Submission of EMPS

As per Environment Impact Assessment Notification dated 27/01/1994, the project authorities shall submit half yearly report to I.A. Agency (Regional Office, Ministry of Environment & Forests, GOI) stating the implementation of recommendations and conditions imposed during Environmental clearance.

Annual Report

As per Rule 14 of E.P. Rules, every project/mine coming under purview of Water Act 1974 and Air Act 1981 has to submit annual Environmental Statement by September every year, stating raw material consumption, waste generation, its quality, quantities etc. to the respective Member Secretary, State Pollution Control Board.

Report on Diversion of Forest Land

Under Forest (Conservation) Act 1980 and Rules, Department of Forest, GOI receives monitoring report on diversion of forest land from the State Govt. as well as from their Zonal Offices, at suitable intervals.

DECLARED POLICIES OF THE GOVT. OF INDIA (GOI) RELATED TO MINING, INDUSTRY, FOREST AND ENVIRONMENT

The Central Govt. declares policy on different issues from time to-time to take administrative and legal steps to achieve the same. Some relevant policies are given below:

a) Indian National Forest Policy 1988:

Basic Objectives

The basic objectives of the National Forest Policy (NFP) 1988 are the following:

1. Maintenance of environmental stability through preservation and, where necessary, restoration of the ecological balance that has been adversely disturbed by serious depletion of the forests of the country.
2. Conserving the natural heritage of the Country by preserving the remaining natural forests with the vast variety of flora and fauna, which represent the remarkable biological diversity and genetic resources of the country.
3. Checking soil erosion and denudation in the catchment areas of rivers, lakes, and reservoirs in the interest of soil and water conservation, for mitigating floods and droughts and for the retardation of siltation of reservoirs.
4. Checking the extension of sand -dunes in the desert of Rajasthan and along the coastal tracts,
5. Increasing substantially the forest/tree cover in the country through massive afforestation and social forestry programmes, especially on all denuded, degraded and unproductive lands.
6. Meeting the requirements of fuel-wood, fodder, minor forest produce and small timber of the rural and tribal populations.
7. Increasing the productivity of forests to meet essential national needs.
8. Encouraging efficient utilization of forest produce and maximizing substitution of wood.
9. Creating a massive people's movement with the involvement of women, for achieving these objectives and to minimize pressure on existing forests.

An important feature of the NFP 1988 is that it identifies assurance of 'environmental stability and maintenance of ecological balance' to be the principal policy objective. NFP, 1988 clearly asserts that 'the derivation of direct economic benefit must be subordinated to this principal aim'.

The policy aims at complete protection of the existing forest land and rapid increase in forest cover particularly on hill slopes, in catchment areas of rivers, lakes and reservoirs and ocean shores and on semi-arid, arid and desert tracts. While retaining the goal of the 1952 policy to have a minimum of one-third of the total land area of the country under forest or tree cover, the NFP 1988 asserts on maintaining canopy cover over two third of the hilly and mountainous regions.

For management of state forests the policy stipulates, among other things the following:

1. Discouragement of development projects on hilly, steep, erosion prone and ecologically sensitive area, and complete protection of tropical rain/moist forests.
2. Requirement of government approval before any state forest land may be permitted to be worked.

Taking cue from the failure of the 1952 policy to increase the forest cover of the country to the desired level of 33%, the NFP, 1988 has proposed stringent measures for discouraging diversion of forest lands for non-forest purposes. Such measures, inter-alia, include the following:

1. Diversion of forest land for any non-forest purpose should be subject to the most careful examinations by specialists from the standpoint of social and environmental costs and benefits.
2. Construction of dams and reservoirs, mining and industrial development and expansion of agriculture should be consistent with the needs for conservation of trees and forests. Projects which involve such diversion should at least provide in their investment budget, funds for regeneration / compensatory afforestation.
3. Beneficiaries who are allowed mining and quarrying in forest land and in land covered by trees should be required to repair and re-vegetate the area in accordance with established forestry practices.
4. No mining lease should be granted to any party, private or public, without a proper mine management plan appraised from the environmental angle and enforced by adequate machinery.

Other important aspects of NFP 1988 include the following:

1. Due care and emphasis on the needs of wildlife conservation.
2. Tribal people are to be closely associated in the protection, regeneration and development of forests. Stress to be put on providing gainful employment to people living in and around the forest.
3. Alternative avenues of income, suitably harmonized with the right land-use practices would be devised to discourage shifting cultivation.
4. No regularization of existing encroachments on forestlands.
5. Improved and modern management practices to be adopted to deal with forest fires.
6. Special conservation areas, young plantations and regeneration areas are to be fully protected against grazing and browsing.
7. Forest-based industries are to raise the raw materials needed for meeting their own requirements. Farmers, particularly small and marginal farmers would be encouraged to grow on marginal/ degraded lands available with them, wood species required for industries.
8. No forest based enterprise, except that at the village or cottage level, are to be permitted in the future unless it has been first cleared after a careful scrutiny with regard to assured availability of raw material.
9. Natural forests will not be made available to industries for timber taking plantation and for any other activities.
10. Import of wood and wood products is to be liberalized.
11. Effort to be made to inculcate in the people, a direct interest in forests, their development and conservation, and to make them conscious of the value of trees, wildlife and natural in general.
12. Forestry is to be recognized both as a scientific discipline as well as a profession.
13. Emphasis is to be laid on scientific education and research on forestry. This will necessitate adequate strengthening of the research base as well as new properties for action. Thrust on research related to wildlife and management of national parks and sanctuaries.
14. Periodical collection, collation and publication of reliable data on relevant aspects of forest management to be improved with recourse to modern technology and equipment.
15. Appropriate legislation to be undertaken, this would be supported by adequate infrastructure and enforcement mechanism at the Centre and State level.
16. Considering the contribution of forests in maintaining essential ecological processes and life-support systems and in preserving genetic diversity, substantial investment of financial and other resources is to be made in the forestry sector.

A synthesis of the focal points of the National Forest Policy 1988 reveals that it is principally eco-centric. While earlier forest policies of India were tempered to the needs of production forestry the 1988 policy envisages environmental forestry to be its principal goal. It has also put forward a multi-pronged strategy to ensure a holistic approach towards forest management in India. The policy recognizes that a forest is a national asset to be protected and enhanced for the well being of the people and the Nation. A welcome shift in the forestry paradigm is that forests are no longer to be looked upon as a source of revenue but as a renewable natural resource.

b) statement of Industrial Policy -July 1991:

According to this policy, mining of only coal and lignite, mineral oil, iron ore, manganese ore, chromite, gypsum, sulphur, gold, diamond, copper, lead, zinc, tin, molybdenum, wolframite and atomic minerals has been kept reserved for the public sector.

This list has been further relaxed after declaration of the new mineral policy in 1993.

c) Policy statement on Abatement of Pollution, Environment and Development, -June, 1992.

Salient features regarding mining:

- i) Concurrent rehabilitation of mined out area with ongoing mining operations.
- ii) Rehabilitation of the abandoned mined out areas in a phased manner.
- iii) Laying down requisite stipulations for ML, regarding ore body tenure, size, shape, disposition with reference to the geological boundaries and mining conditions to ensure systematic extraction of minerals along with environmental conservation.
- iv) Emphasis on production of value-added products from mining.
- v) Upgradation and beneficiation of the minerals at source to the extent possible in order to ensure utilization of low grade mineral resources and reduce the cost of transportation.
- vi) Environmentally safe disposal of the by-products and waste from mining.
- vii) Restriction on mining in sensitive areas
- viii) Discouraging selective mining.
- ix) Environmental Impact Assessment prior to selection of the mining sites.

d) National Mineral Policy :(first announced in 1990, and again modified in 1993)

- i) Mineral Inventory to be compiled by IBM, Nagpur
- ii) State undertaking mineral development in public interest to make raw materials available to the core industry.
- iii) Thrust for infrastructure development in mineral bearing areas.
- iv) Induction of foreign technology and foreign participation in exploration and mining for high value and scarce minerals. Encouragement of foreign equity investment in joint ventures in mining.
- v) To take comprehensive view to facilitate the choice or order of land use, keeping in view the needs of development as well as needs of protection of the forest, environment, and ecology.
- vi) To ensure sustainable development of the mineral resources in harmony with the environment.
- vii) Prevention and mitigation of adverse environmental effects due to mining. This consideration shall form an integral part of the mine -development strategies.
- viii) Mining operations shall not ordinarily be taken up in identified ecologically fragile areas and biologically rich areas.

- ix) Strip mining in forest areas to be avoided; it may be permitted only with time-bound reclamation programme. .
- x) No mining lease to be granted without a "Mining Plan" including an environmental Management Plan.
- xi) Reclamation and afforestation will proceed concurrently with mineral extraction.
- xii) Old disused mining sites should be converted to forests or other appropriate land-forms.

AIR AND WATER POLLUTION

Air Pollution

Air Pollution in mining activity is comparatively less in comparison to other industries like Thermal Power Plants, Cement Industry and Smelters. Generation of dust at the source is suppressed by different mitigation measures, as provided in Coal and Metalliferrous Mines Regulations, MCDR, as well as under Air Act 1981 and rules.

In May, 1993 the EP Rules -were amended to include Schedule (vi) giving standard norm for air, water and noise pollution.

Recently, the central pollution control board (CPCB) revised the national Ambient Air Quality Standards (NAAQS) in April 1994. They have introduced two more items, i.e. Respirable Particle Matter (RPM) less than 10 micron (PM₁₀) and lead content in addition to SPM, SO₂, NO_x, CO.

They have also introduced Annual Average based on minimum 104 measurements / year, taken twice a week each for 24 hrs. duration. Annual average has been kept at about 70% of the 24 hourly average.

Water Pollution

By using wet drilling, spraying water on roadways by water tanker, water sprinklers, use of chemicals with water, dust concentrations have been kept within the prescribed standard.

But mine-water management is a matter of vital concern which should be taken more seriously by the mine-owners. In a number of mines, the quantity of water pumped is more than the quantity of the mineral raised, specially in Neyveli Lignite Corpn, Goan iron ore mines, china clay and silica Sand mines in Bihar & Orissa where mineral is being worked below water table. In hilly areas, rain water carries the fines and silts, damages agricultural land, or fills up nearby water-reservoirs and water courses. In such cases, check-dams, settling pond, stone pitching, garland drains have been provided, and quality of the discharged water is regularly monitored as per Water Cess Act. There is already a system of penalty or rebate based on the quality of the water discharged, and installation and operation of effluent water treatment plant. The mine owner has to pay 1.5 paise to 9.5 paise / kilo litre of water used / discharged depending upon the type of water and its use. Rebate of 25% can be given, provided, effluent water treatment device is in operation, and norms of consumption are within the prescribed limits.

However, more precautions have to be taken in locating and designing the tailing dams, specially for base metals like copper, lead, Zinc, and gold, where there is a chance of seepage of the leachates of toxic and heavy metals to ground water causing its contamination.

There was a certain complaint of acidic ground water in Amjhore area, due to pyrite mine. To mitigate the same the company is recharging fresh water from Sone River in the area, to improve pH.

Noise Pollution

Noise has been clubbed with air pollution. The noise limit has been specified by the DGMS, for work place in mines. Ambient noise level has been specified in schedules of the E.P.Rules.

Regular noise survey is being done in some of the intense noise producing areas e.g. jack-hammer drilling, ore crushing, loading etc. Blasting at night in opencast mines has been banned by D.G.M.S. Authorities.

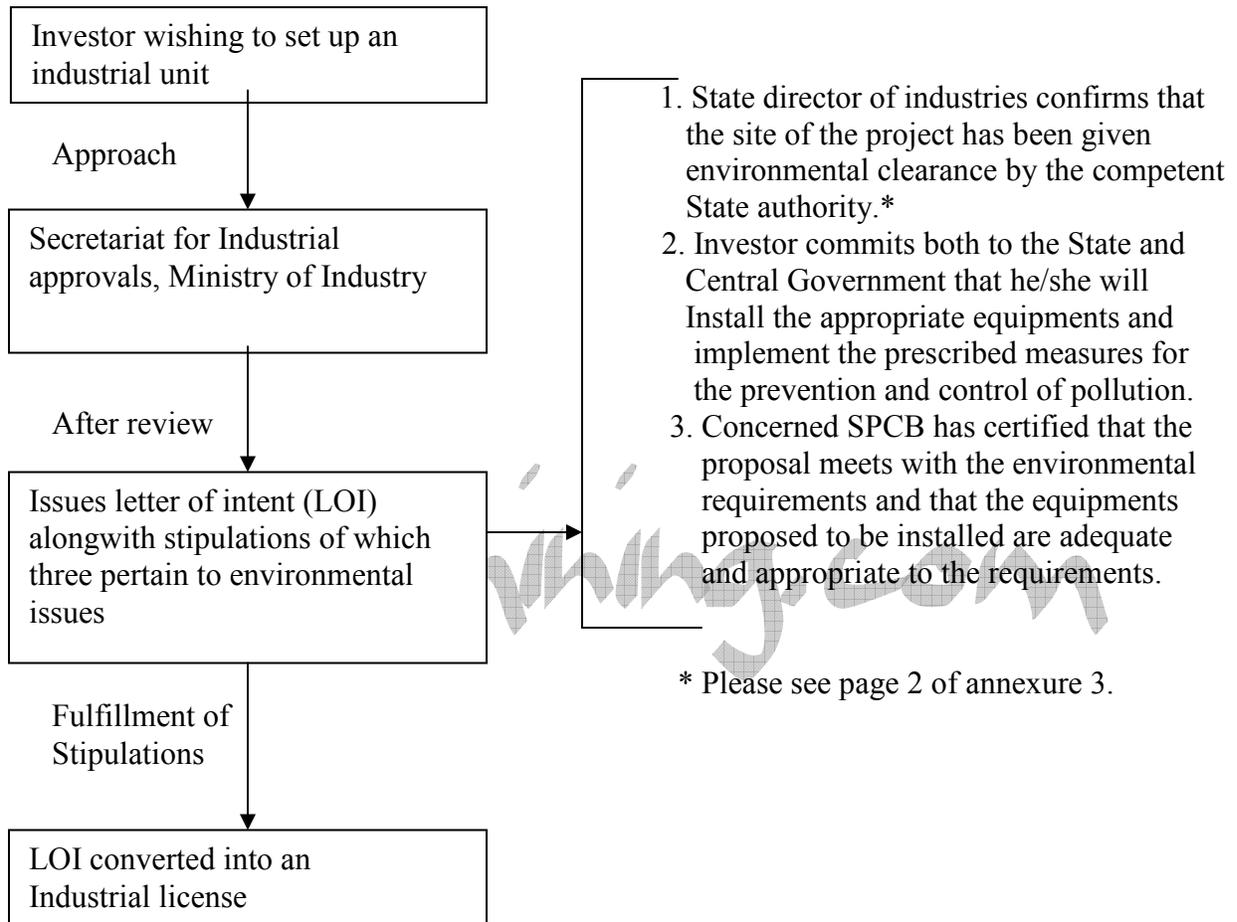
Interim order dated 12/12/1996 of the Hon'ble Supreme Court of India in W.P. [C] No.202/1995 mentioning that unless duly permitted by the Central Govt. through the Ministry of Environment and forests, non-forest activity, including mining operations either opencast or under ground, should not take place in any forest areas throughout India has resulted in suspension / closure of many mines through length and breadth of our Country including many Iron Ore Mines in Orissa and Mines requiring renewal of Mining Leases in respect of Central Public Sector Undertakings like NMDC Ltd., Kudremukh Iron Ore Company Ltd. and a Limestone Mine of Vizag Steel Plant in Andhra Pradesh. Though the guidelines on the subject matter issued by Ministry of Mines, Ministry of Environment and forests, GOI have stipulated for reasonably early disposal of cases pertaining to grant of prospecting license, mining leases, environmental clearances, forest clearances, issue of No Objection Certificates by State Pollution Control Boards the mining industry's experience has not been very encouraging and satisfactory. Under the provisions of Mines and Minerals Development & Regulation Act and Mineral Concession Rules, though the Mines Management has submitted application to the concerned District Collector /Directorate of Geology & Mining / State Mineral Resources Department one year before the due date of renewal of the Mining Lease, different Mine managements have been facing lot of trouble in obtaining the renewal of the said mining leases in time-because renewal of mining lease is also being treated as a fresh application for issue of mining lease and many Formalities and procedures being insisted upon. Approval of the "Mining Plan" by the concerned Regional Office of Indian Bureau of Mines, Environmental and Forest Clearances by MOEF, New Delhi are being insisted upon before granting mining lease renewal. It is observed that lot of time is required to be spent by the mining industry in identifying suitable land for undertaking compensatory afforestation in lieu of forest land to be broken.

Trough their order dated 4th March, 1997, Hon'ble Supreme Court has directed as below:

1. Where the lessee has not forwarded the particulars for seeking permission under the Forest Conservation Act, he may do so immediately;
 2. The State Govt. shall forward all complete pending applications within a period of 2 weeks from 4/3/1997 to the Central Govt. for requisite decisions;
 3. Applications received (or completed) hereafter would be forwarded within two weeks of their Being so made;
 - 4 The Central Govt. shall dispose of all such applications within six weeks of their receipt. Where the grant of final clearance is delayed, the Central Govt. may consider the grant of "Working permissions" for a period of one year or less as per existing practice.
- Recently National Environment Appellate Authority has been constituted by GOI to look into environment related matters.

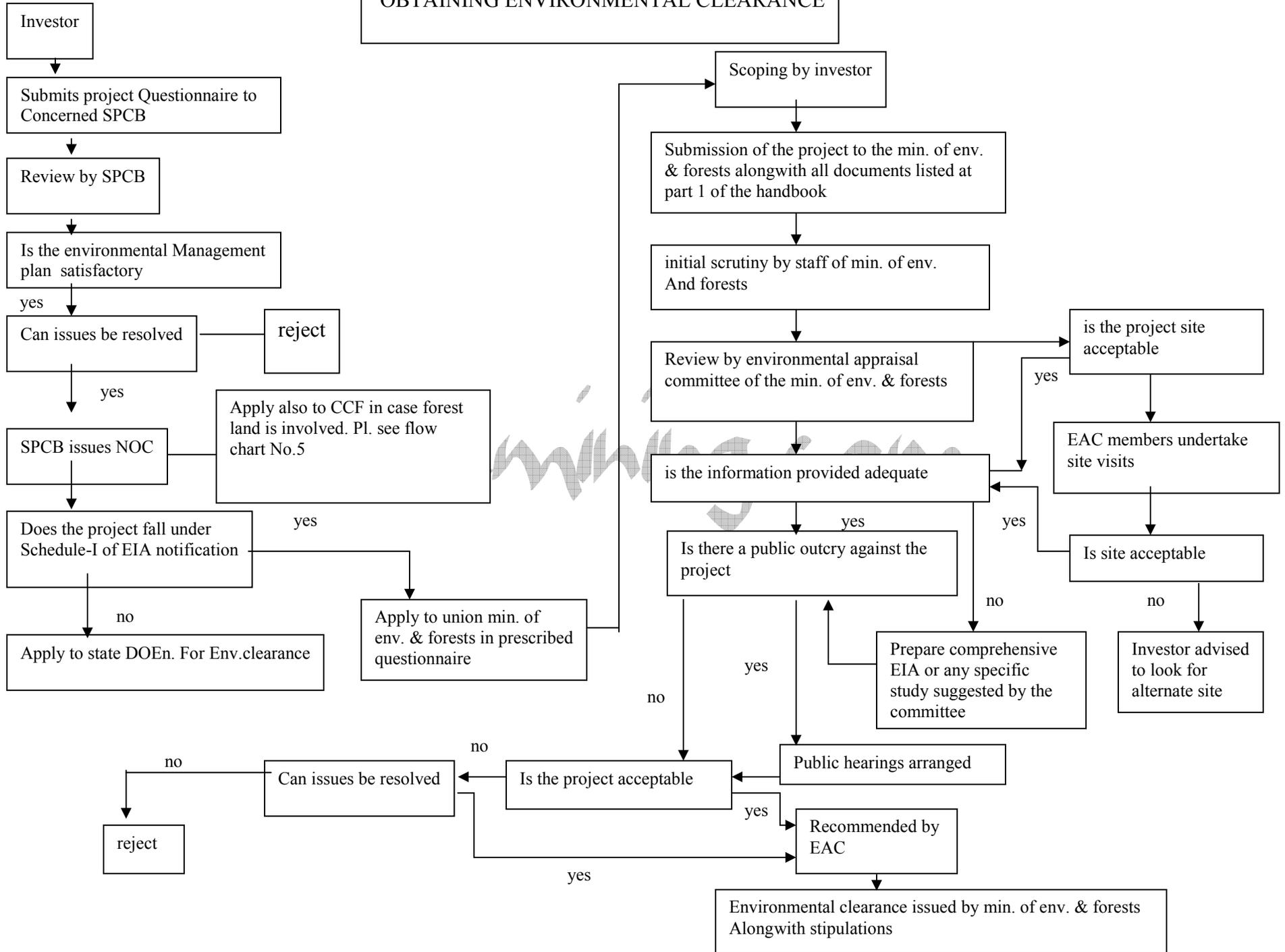
Extracts from “handbook of environmental procedures & guidelines” published by Government of India, Ministry of environment & Forests, New Delhi-1994

FLOW CHART NO.1
Industrial Licensing Procedure
(Applicable only to those Industries listed at Annexure-2)

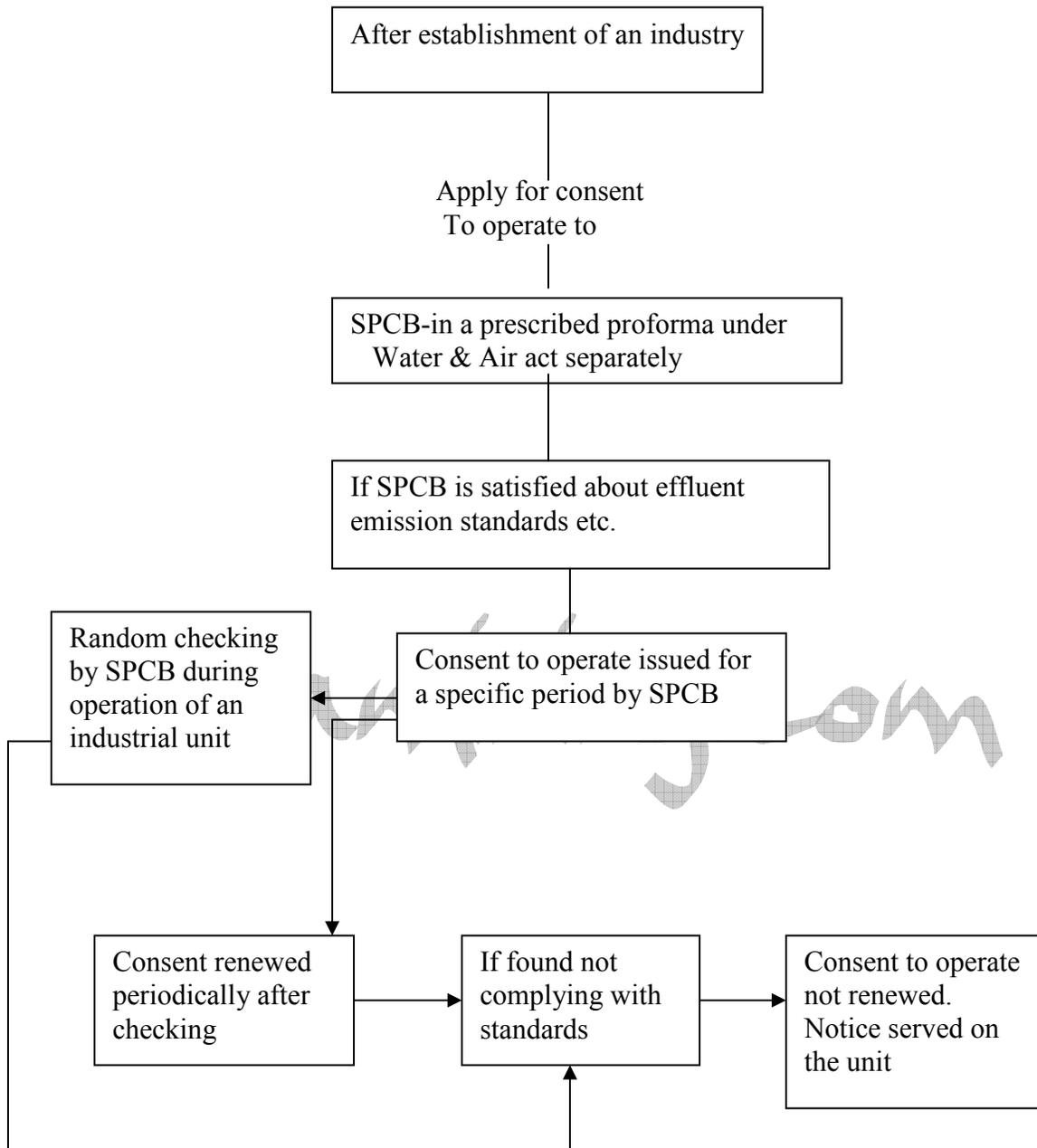


For fulfilling the above three stipulations, the procedure is described in Flow Chart Nos. 2-5.

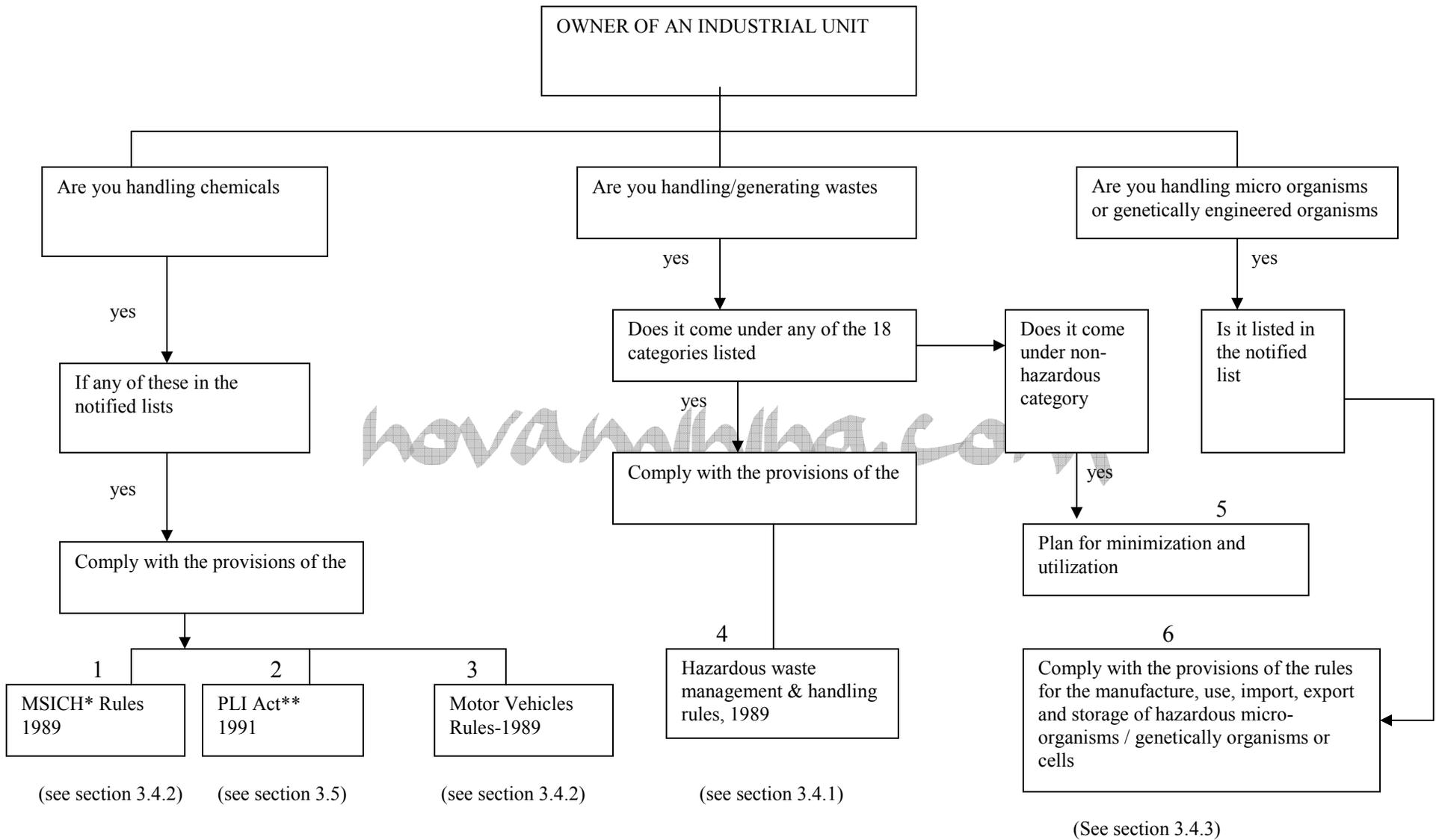
**FLOW CHART NO.2
OBTAINING ENVIRONMENTAL CLEARANCE**



FLOW CHART NO.3
CONSENT TO OPERATE INDUSTRIAL UNIT



**FLOW CHART NO.4
FOR HANDLING OF HAZARDOUS SUBSTANCES**



*manufacture, storage and import of hazardous chemicals rules, 1989

** the public liability insurance act, as amended

1

MSICH RULES, 1989
 -Identify major accident hazards
 -take measure to prevent and limit the consequences of such accidents
 -provide information to workers on site
 -provide training and equipments regarding safety
 -notify accidents to the authorities
 -notify the sites and updating it as per schedule 7
 -prepare MSDS for all chemicals
 -prepare on site emergency plans
 -provide all relevant information to distt. Authorities for preparation of off-site emergency plan
 -prepare safety report
 -provide information to public regarding do's and don'ts and potential hazards
 -label all containers having HC
 -report import. Maintain all records

2

PLI ACT
 - take an insurance policy before commencing the activity
 -pay to environment relief fund
 -provide immediate relief in case of an accident
 -provide all relevant information to the authorities

3

MOTOR VEHICLE RULES
 -check road worthiness of the vehicle before giving the consignment
 -provide all information to the transporter & driver
 -make sure that the driver is trained enough to handle the HC
 -train drivers to take appropriate steps
 -transporter has to provide labels on the vehicles as prescribed

4

HAZARDOUS WASTE RULES
 -report to authorities regarding handling of wastes
 -obtain authorization for handling waste
 -labelling of all packages, consignments etc. should be ensured
 -report any accident
 -maintain records
 -file annual returns

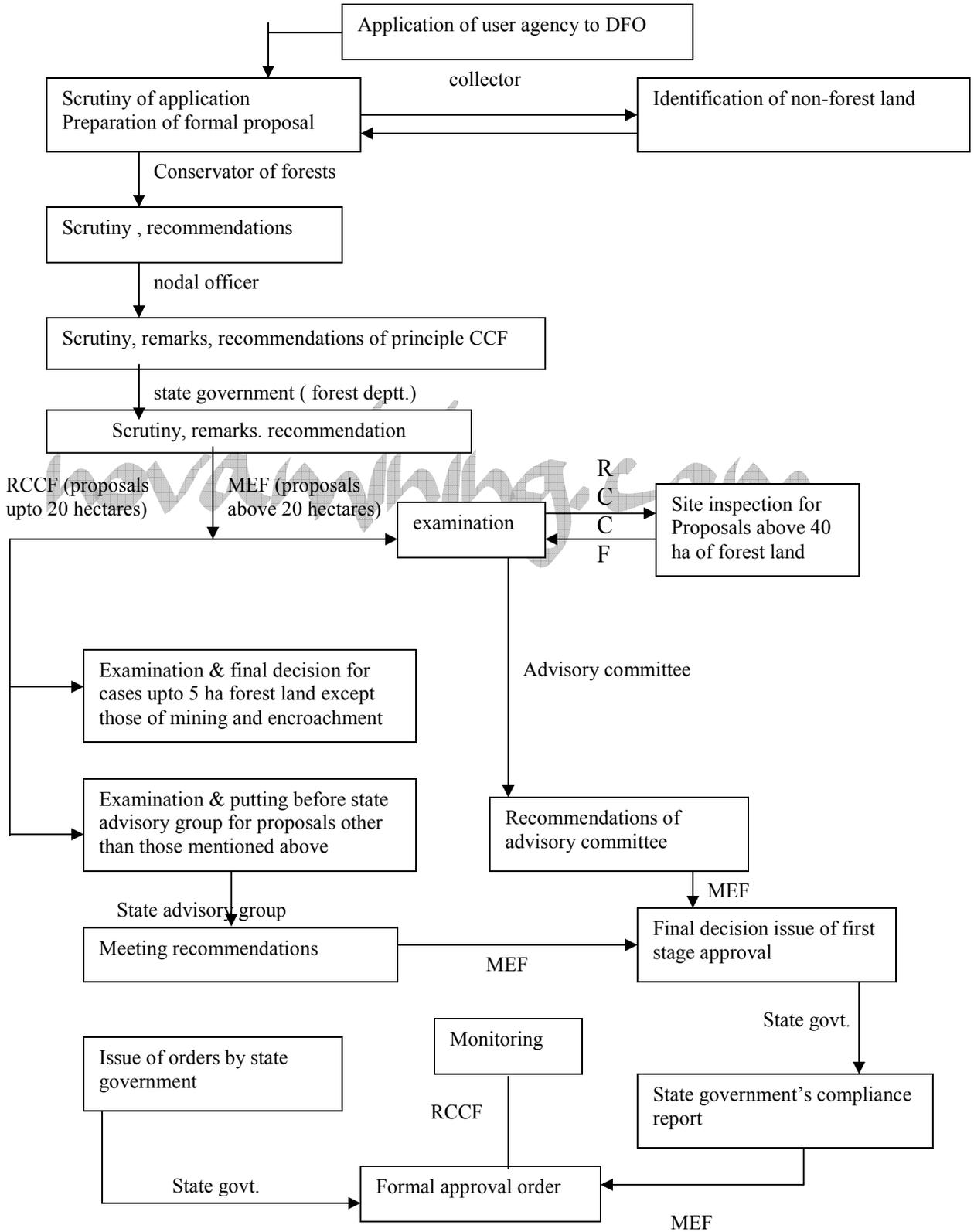
5

-Draw up plans for minimization of other solid waste
 -draw plans for utilization of solid waste

6

RULES FOR MICRO-ORGANISMS
 -seek approval for handling hazardous micro-organisms
 -seek consent from GEAC for production
 -seek approval for release in the environment
 -constitute an IBSC
 -cooperate with authorities to draw samples
 -follow good laboratory practices (GLP)

**FLOW CHART NO.5
OBTAINING FOREST CLEARANCE**
Flow chart showing various steps involved in examination of cases received under FC Act



**Extracts from "Handbook of Environmental Procedures & Guidelines" Published by
Government of India, Ministry of Environment & Forests, New Delhi -1994**

PART II -PREVENTION AND CONTIROL OF POLLUTION

The Policy Statement for Abatement of Pollution issued by the Ministry of Environment and Forests in 1992, provides instruments in the form of legislation and regulation, fiscal incentives, voluntary agreements, educational programmes and information campaigns in order to prevent, control and reduce environmental pollution,. The establishment and functioning of any industry will be governed by the following Acts of the Ministry of Environment and Forests besides the local zoning and land use laws of the States and UTs.

1. The Water {Prevention and Control of Pollution) Act, 1974 -as amended from time to time (Water Act)
2. The Water (Prevention and Control of Pollution) Cess Act, 1977 as amended (Water Cess Act)
3. The Air (Prevention and Control of Pollution) Act, 1981 as amended (Air Act)
4. The Environment (Protection) Act, 1986 (EPA)
5. The Public Liability Insurance Act, 1991 as amended (PLI Act)

Once an industry has been set up, during the process of manufacture and operation, the industry is also required to meet the standards of emissions, effluents and noise levels prescribed under the Environment (Protection) Rules framed under the Environment (Protection) Act of 1986 which is an umbrella legislation for the protection of environment in the country.

1. EXPLANATORY NOTES FOR THE ACTS

1.1 The Water {Prevention and Control of Pollution) Act, 1974

The main provisions of this Act aim at prevention and control of water pollution as well as restoration of water quality, through the establishment of State Pollution Control Boards. Some salient features of this Act:

Subject to the provisions in the Act -

- (a) No person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any stream or well or sewer or on land;
- (b) No person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the Water of the stream in a matter leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences.
- (c) No person shall, without the previous consent of the State Board:
 - (i) establish or take any steps to establish any industry, operation or process, or any treatment and disposal system or an extension or addition thereto which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land (such discharge being hereafter in this section referred to as discharge of sewage); or
 - (ii) bring into use any new or altered outlets for the discharge of sewage; or
 - (iii) begin to make any new discharge of sewage.

An investor intending to set up an industry is required to apply in the prescribed form to the SPCB concerned to obtain the consent to establish as well as the consent

to operate the industry after establishment. While granting the consent, the SPCB also stipulates specific conditions relating to the temperature, volume, composition, rate and point of discharge of emissions, effluents etc. The consent to operate an industry is granted for a specific period after which the conditions stipulated at the time of granting consent are reviewed by the SPCB. Even before the expiry of the consent period, the SPCB is authorised to carry out random checks on any industry to check if the standards prescribed are being complied with by the industry; in case the standards are not being met, the SPCB is authorised to serve a notice to the concerned person. (Please see flow chart No.2 and 3)

The owner of a defaulting industry may be required to construct a sewage/effluent treatment system. In the event of non-compliance of the standards, the SPCB may issue directions for disconnecting electricity and water supply or any other services to the industry, in extreme cases even to close down the unit.

Stringent penalties are prescribed in this Act for those who operate their industry without the valid consent or in violation of consent conditions.

Any person aggrieved by an order of the SPCB in the above context may appeal to the Appellate Authority constituted by the concerned State Government. As per the provisions under the Water Act and the Air Act, all State Governments, are required to constitute Appellate Authorities for addressing the appeals received against SPCB. While some State Governments have separate Appellate Authorities under the two Acts, a single Appellate Authority may also exist in other states.

1.2 The Water (Prevention and Control of Pollution) Cess Act, 1977

The purpose of this Act is to levy and collect cess on water consumed by certain categories of industry specified in the schedule appended to the Act. Local authorities may also specify the categories of such industries. The money thus collected is used by the Central and State Pollution Control Boards to prevent and control water pollution. Some salient features of this Act are as follows:

- The assessing authority under the Act levies and collects cess based on the amount of water consumed by these industries; the rate is also determined by the purpose for which the water is used.

- The concerned industries are required to install standard water meters at such places as may be required by the concerned authority for measuring and recording the quantity of water consumed by the industry.

- Based on the cess returns to be furnished by the industry every month, the amount of cess is assessed by the assessing authorities.

- Aggrieved persons may appeal against the assessment to the Appellate Authority.

- The Act also provides for a 25% rebate on the cess payable to those industries who consume water within the quantity prescribed for that category of industries and also comply with the effluents standards prescribed under the Water Act or the EPA.

1.3 The Air (Prevention and Control of Pollution) Act, 1981

The objective of the Air Act is to prevent, control and reduce air pollution including noise pollution and to establish Boards at the States/UTs for this. Under the provisions of this Act, no person shall establish or operate any industrial plant without the consent of the SPCB/PCC.

-For obtaining consent to establish an industry, the investor has to apply to the SPCB/PCC in the prescribed form accompanied by the prescribed fees. The Board is required to grant consent within 4 months of receipt of the application. The consent would contain conditions relating to specifications of pollution control equipment to be installed. (Please see flow-chart No.2).

Other provisions of the Act are similar to those of the Water Act, 1974.

1.4 The Environment (Protection) Act, 1986.

This Act is an umbrella legislation providing a single focus in the country for the protection of environment and seeks to plug the loopholes of earlier legislation relating to environment. Several sets of Rules relating to various aspects of management of hazardous chemicals, wastes, micro-organisms etc. have been notified under this Act.

Some important points of this Act are:

-The Central Government may also put restrictions on an area in which any industry, operation or process or class of industries or operations shall not be carried out. If they are to be carried out, they may be permitted with certain safeguards.

-Emissions and effluent standard in respect of 61 categories (List can be made available if required) of industries have been evolved and notified so far.

-The standards in respect of pollutants are to be achieved within a period of one year from the date of their notification, specially by those industries identified as highly polluting (Please see list at Annexure- 7)

-However, if a particular SPCB may so desire, it may reduce the time limit and also specify more stringent standards in respect of a specified category of industries within their jurisdiction. The SPCB however cannot relax either the time limit or the standards.

-Those industries who require consent under the Water Act, Air Act or both, or authorization under the Hazardous Waste (Management and Handling) Rules, 1989, are required to submit an environmental audit report to the concerned SPCB/PCC on or before 30th September every year.

2. HAZARDOUS WASTES

Persons handling specific categories of hazardous wastes (18 categories of hazardous wastes have been identified so far) are required to obtain authorization for handling such wastes from the concerned SPCB/PCC. (Please see flow-chart No.4).

As per the provisions of the Environment (Protection) Act, 1986, Rules regarding Management and Handling of Hazardous Wastes have been notified. Main points are:

-Every occupier generating hazardous waste and intending to collect, treat, transport, store and dispose of such waste, is required to make an application in Form-I (provided in the above quoted Rules) to the SPCB/PCC. The SPCB/PCC issues the authorization along with stipulations for treatment and disposal of such wastes.

-Rules for the Management, Storage and Import of Hazardous Chemicals have also been notified in 1989 under the EPA. As per these Rules, the occupier shall not undertake any industrial activity involving any of the 17 (Lists will be provided if necessary) identified hazardous chemicals unless he/she has prepared a Safety Report containing the requisite information specified in the Rules. New industries are required to prepare the safety report within 5 years of coming into operation. The occupier of industries handling any of the

chemicals specified in schedule 2 and 3 of the Rules is also required to prepare and maintain an up-to-date on-site emergency plan for dealing with major accidents.

2.1 Other important features-of these Rules:

1. Owners of industries utilizing any of the identified hazardous chemicals are required to identify likely hazards and their danger potential and are expected to take adequate steps to prevent such occurrences.
2. Preparation of Materials Safety Data Sheets (MSDS) is essential for all chemicals handled.
3. Workers on-site are required to be provided with information, training and necessary equipments to ensure their safety.
4. On-site Emergency Plan is to be prepared before commencement of activity.
5. Information regarding off-site spill, if any, of an accident envisaged on-site, needs to be provided to the District Collector for preparation of an off-site emergency plan before commencement of the activity.
6. Before commencement of activity, the public in the vicinity of the plant needs to be informed of the nature of a major accident that might occur on-site and the Do's and Don'ts to be followed in case of such an occurrence.

3. HAZARDOUS MICRO-ORGANISMS AND GENETICALLY ENGINEERED ORGANISMS

The Department of Bio- Technology under the Ministry of Science and Technology is the nodal agency for granting licences for manufacture, import and export of micro-organisms and genetically engineered organisms. However, such licences are issued only after the proposal is cleared from the environmental angle by the Ministry of Environment and forests.

For according such clearances, the Ministry has notified the "Rules for the Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms and Genetically Engineered Organisms or Cells" in 1989 under the EPA, 1986.

The investor is required to submit an application in the prescribed proforma to the Ministry of Environment and Forests (Please see flow-chart No.4).

The Genetic Engineering Approval Committee (GEAC) constituted by the Ministry of Environment and Forests examines the application forms and makes recommendations.

All industries involving hazardous micro-organisms or genetically engineered organisms, are required to constitute an Institutional Bio-Safety Committee (IBSC) to oversee the planning and execution of various operations in a safe manner and to prepare an on-site emergency plan to deal with any accident which may occur due to a hazardous micro-organism.

4. THE PUBLIC LIABILITY INSURANCE ACT, 1991 AS AMENDED

This Act, unique to India, imposes on the owner the liability to provide immediate relief in respect of death or injury to any person or damage to any property resulting from an accident while handling any of the notified hazardous chemicals. This relief has to be provided on "no fault" basis. To be able to meet this liability, the owner handling hazardous chemicals has to take an insurance policy of an amount equal to its "paid up capital" or upto Rs. 500 millions, whichever is less. The policy has to be renewed every year. New undertakings will have to take this policy before starting their activity. For existing plants the policy was to be taken within one year of the Act coming into force i.e. upto 31st March, 1992. The owner also has to pay an

amount equal to its annual premium to the Central Government's Environment Relief Fund (ERF). The reimbursement of relief to the extent of Rs. 25,000/- per person is admissible in case of fatal accidents in addition to the reimbursement of medical expenses upto Rs. 12,500/-. The liability of the insurer is limited to Rs. 50 million per accident upto Rs. 150 millions per year or upto the tenure of the policy. Any claims in excess to this liability will be paid from the ERF. In case the award still exceeds, the remaining amount shall have to be met by the owner. The payment under the Act is only for the immediate relief; owners shall have to provide the final compensation, if any arising out of legal proceedings.

5. FISCAL INCENTIVES TO ENCOURAGE CONTROL AND PREVENTION OF POLLUTIONS

The Government of India offers several incentives to ensure that industries are motivated to comply with the various environmental standards prescribed under different Acts and Rules to control and prevent pollution. Some major fiscal incentives are given below:

5.1: Exemption from income tax: In order to ensure enthusiastic public involvement, particularly of the corporate sector and private individuals, donation given by a tax payer to any association or institution for programmes on conservation of nature and natural resources will be exempt from income tax. Secretary, Ministry of Environment and Forests approves such institutions and associations.

5.2 Depreciation allowance: Depreciation allowance at 30% is allowed on devices and systems installed by industrial units for minimizing pollution or for conservation of natural resources.

5.3 Investment allowance: An investment allowance at the rate of 35% of the actual costs of new machinery or plant expected to assist in the control of pollution and protection of environment is granted; (The Central Government has notified a list of such machinery and plant on which investment allowance is granted).

5.4 Exemption from tax on capital gains: The purpose of this incentive is to encourage industries to shift from congested urban areas. Capital gains arising from transfer of buildings or lands used for the purpose of business are exempt from tax if these are used for acquiring land or for constructing buildings for the purpose of business at a new place.

5.5 Excise and Duty exemption on utilization of fly ash, phosphogypsum etc.

-Excise duty is exempted on the production of low cost building materials and components

-Excise duty is exempted on the production of building materials using fly ash, or phosphogypsum in 25% or more quantities as raw materials.

-Custom duty is exempted on the import of equipment machinery and capital goods required for the production of building material such as bricks, light weight aggregates, light weight concrete elements etc. using fly ash and phosphogypsum.

-Reduction in excise duty upto 15% is allowed on pre-fab components required for housing.

For more details on this subject, the relevant opinions of the Income Tax and related Acts and Rules may be consulted.