

E2004
V1**Haryana Vidyut Prasaran Nigam Ltd. Environmental & Social Policy****EXECUTIVE SUMMARY**

Haryana became a new state of India on 1st November, 1966 with Chandigarh its capital, and since then it has made spectacular progress to become one of the most prosperous states of India. Haryana's geographical proximity to the national capital New Delhi and, a well developed telecom and transport infrastructure, are its major strengths in the economic field.

Haryana is a small state in north India. It has a total of 81 cities and towns. It has 6,759 villages. For administrative purpose the state is divided into four divisions - Ambala, Rohtak, Gurgaon and Hissar. Haryana is situated in the north between 27 deg 37' to 30 deg 35' latitude and between 74 deg 28' to 77 deg 36' longitude. Haryana has Uttar Pradesh (U.P) on its eastern border, Punjab on its western border, Uttranchal, Himachal Pradesh & Shivalik Hills on its northern border and Delhi, Rajasthan and Aravali Hills on its southern border. The altitude of Haryana varies between 700 ft to 900 ft above the sea level. An area of 1,553 sq km is covered by forest.

Climate of Haryana is similar to other states of India lying in the northern plains. It is very hot in summer (up to a high of 50 deg Celsius) and cold in winters (down to a low of 1 deg Celsius). The hottest months are May and June and the coldest being December and January. Rainfall is varied, with Shivalik Hills region being the wettest and the Aravali Hills region being the driest. About 80% of the rainfall occurs in the monsoon season (July-September) and sometimes causes local flooding.

The State's power sector was restructured on August 14, 1998. The Haryana State Electricity Board (HSEB) was reorganized into two State owned corporations namely Haryana Vidyut Prasaran Nigam Ltd. (HVPNL) and Haryana Power Generation Corporation Ltd (HPGCL) on 14.08.1998.

At present HVPNL has 256 Grid substations of voltage rating 66 kV to 220 kV along with 7844 Km of associated transmission lines. In addition there are 6 nos. 400 kV substations of PGCIL 2 Nos. 400 kV & 8 Nos 220 kV substation of BBMB located in Haryana which are catering to the load requirements of distribution companies

The growth of power demand in Haryana on the average has been of the order of 7 to 8% in the past but now it is in the range of 14% for the state as a whole, whereas in certain pockets like Gurgaon and other industrial belts, this rate has touched a high level of 20-25%. Looking at the aspirations of the consumers, their paying capability, expectations and electrical equipment available for consumer use, the rate of growth is likely to be higher than the rate which existed a few years back.

For meeting power load growth & evacuation of the proposed capacity addition of power, Haryana Vidyut Prasaran Nigam Limited (HVPNL) has made a comprehensive transmission expansion program at an estimated cost of Rs.7643 crore during 11th five year plan.

HVPNL will undertake construction of new substations; installation of additional transformers, laying of new transmission lines, interlinking of lines of existing substations etc.

HVPNL is committed to provide a clean environment, ecology and sustainable development in all its developmental activities. All the transmission projects are, therefore, very carefully planned, following the stipulated guidelines, to ensure that the least possible, if any, adverse environmental & social impacts are caused at the same time reliability, security and economy are also not compromised with. HVPNL also ensures that natural resources, natural habitat, cultural habitat, historical monuments/ structures etc. are conserved for the future generations.

The erstwhile HSEB had developed the first Social Policy & Procedure document in 1997 as per priority issues in the power sector consistent with operational directives of the Multilateral Funding Agencies

HVPNL has within the overall corporate ethics of avoidance, minimization and alleviation has now developed its Corporate Environmental and Social Policy and Procedures (ESPP) to address the environment and socio-economic issues arising from its activities. The ESPP outlines HVPNL's approach and commitment to deal with environmental and social issues, relating to its transmission projects, and lays out management procedures and protocols to alleviate the same. The ESPP includes framework for identification, assessment,

and management of environmental and social concerns at both organizational and project levels.

HVPNL believes that the ESPP is an energetic and living document, which shall be upgraded with the changes in the social and environmental governance in the state and modified in the light of the experiences gained with field implementation of the HVPNL projects. It is the logical vehicle to give a human face to the corporate functioning and moves away from classical cost-benefit approach to the larger realm of corporate social responsibility, while mainstreaming and up scaling environmental and social concerns. It is dedicated to the firm commitment of the HVPNL to the paradigm of sustainable development and appropriate processes.

ESPP document consists of seven chapters, which are briefly discussed as under:

BRIEF PROFILE OF HVPNL

Haryana power sector comprises of four wholly State-owned Nigams i.e. HPGCL, HVPNL, UHBVNL & DHBVNL which are responsible for power generation, transmission and distribution in the State. Earlier, all these activities were performed by the erstwhile Haryana State Electricity Board.

HARYANA VIDYUT PRASARAN NIGAM LIMITED'S ENVIRONMENTAL & SOCIAL POLICY

HVPNL is committed to identify, assess, and manage environmental and social concerns at both organization and project levels by strictly following the basic principals of avoidance, minimization and mitigation of environmental & social impacts with the improvement of Management System and introduction of State of the Art and proven technologies.

The key principals of HVPNL environmental and social policy are:

- Avoid carrying out operations in environmentally sensitive areas such as forests, national park, and biosphere reserves

- Consider environmental implications of location, terrain, and sensitive areas in impact identification and mitigate these with innovative / practical engineering solutions;
- Application of efficient and safe technology practices;
- Abate pollution in all its activities and operations;
- Minimizing energy losses and promote energy efficiency in all activities
- Avoid any disruption of socially sensitive areas with regard to human habitation and areas of cultural significance;
- Wherever losses are suffered, assistance will be provided to the affected persons to improve or at least regain their living standards;
- Consultations will be held among local population regarding finalization of proposed route of the transmission lines and sub-stations;
- Ensure in delivering R&R entitlements and compensation for lost assets based on HVPNL's entitlement framework.
- Involuntary resettlement will be avoided or minimized by exploring all viable alternative project designs.
- All adversely affected persons including those without title to land will be provided assistance to improve or regain their living standards to the pre project levels.
- Special attention will be paid for the improvement of living standards of marginalized and vulnerable groups.
- Resettlement Action Plan (RAP) will be prepared in close consultation with the affected families to ensure their acceptability as well as timely delivery of entitlements and assistance.
- If any person's remaining land holding becomes operationally non viable, the entire holding will be acquired and compensated accordingly, if the Affected

Family (AF) desires. A similar approach will be adopted for structures affected partially.

- Physical works will not commence on any portion of land before compensation and assistance to the affected population have been provided in accordance with the policy framework.

POLICY, LEGAL AND REGULATORY FRAMEWORK

HVPNL undertakes its transmission activities within purview of Indian laws keeping in mind appropriate obligations and guidelines of statutory and funding agencies. Power transmission projects are not included in schedule-I of Environment Impact Assessment-1994, hence environment clearances are not required for power transmission projects and would require limited environmental analysis and Environmental Management Plan (EMP) only.

As per provision contained in Haryana Electricity Reforms Act 1997 & Electricity Act, 2003 Acts, HVPNL has authority to install transmission towers in any kind of land. Electricity Act, 2003 seeks to create a framework for the power sector development by measures conducive to the industry. Electricity Act does not explicitly deal with environmental implications of activities related to power transmission. However, HVPNL integrates environmental protection as a part of its project activities. Power transmission schemes are planned in such a way that the power of eminent domain is exercised responsibly.

Mandatory environment requirements for HVPNL transmission works includes Forest (Conservation) Act, 1980, Environment (Protection) Act 1986, Indian Electricity Rules 1956, Hazardous Waste (Management & Handling) Rules 2003, Conservation of Natural resource related laws, Environment requirement of funding agencies like WB OP4.36 on forest, WB OP 4.11 on physical cultural resources, WB OP 4.04 on natural habitats

Mandatory social requirements for HVPNL transmission works includes Land Acquisition Act 1894, Haryana Government Rehabilitation & Resettlement Policy for land acquisition Oustees and funding agencies requirement like WB OP 4.12 involuntary

resettlement, WB OP 4.10 Indigenous People. National Rehabilitation and Resettlement Policy 2007 has also been consulted while framing the ESPP.

SOCIAL ENTITLEMENT FRAMEWORK

The prescriptive social entitlement framework derives from the aforementioned constitutional directives national R&R Policy, State R&R Policy and relevant policies.

HVPNL reiterates that physical displacement of people is not, and will not be, a major consequence of its projects. Irrespective of whether displacement occurs, the entitlement framework will be a base for all its management procedures. The objective of the HVPNL's framework is to ensure realistic rehabilitation and compensation of the acquired assets of the AFs covers categories such as Loss of Land (Homestead land, agriculture land, tenants, lease holders, encroachers/ squatters etc), Loss of structure (with valid title, tenants, lease holders, squatters, cattle sheds, workshop sheds etc.), Loss of livelihood, Loss of standing crops/ trees, Loss of access to Common Property Resources (CPR) and facilities, Losses to host communities, Panchayat land and additional benefits for vulnerable person

ENVIRONMENT AND SOCIAL MANAGEMENT PROCEDURES

The power transmission system includes and incorporate the transmission line, its right of way (ROW), Switchyards, Sub-stations. The principle structures of the transmission line includes the line itself, conductors, towers supports etc. The voltage capacity of the transmission line affects the sizes required for principal structures. The ROW in which transmission line is constructed ranges in width from 18 meters (66 kV) to 52 meters (for 400 kV line).

The major social & environmental impacts of power transmission system can be loss of Land, loss of structures, Loss of livelihood, Loss of standing crops/ trees, Loss of access to Common Property Resources (CPR) and facilities, Losses to host communities, loss of vegetation, loss of forests, change in land use pattern, loss of human habitats and involuntary resettlement, environment hazards due to PCBs in electrical equipment and impact in cultural/ historical heritage of area, and interference with telecommunication lines due to EMF induced effect. Besides these, minor environmental impacts of transmission system can

be electrocution hazards; noise problems in substations, chemical contamination of sites, fire hazards and loss of sensitive areas like lands/ wet lands etc.

The above problem can occur during different stages of project life viz Project planning, construction, Operation & maintenance and dismantlement of power transmission system.

HVPNL's E&S management process consists of Project conceptualization Project planning, Project approval , Detailed design and tendering, Operation and maintenance and Annual review.

During planning stage because of inherent flexibility in route selection factors like impacts in sensitive areas, loss of human habitations and impact on land use, aviation hazards etc. can be eliminated or managed in such a way that social and environmental impacts are minimized.

During construction stage social & environment impacts can be minimized/ eliminated by proper grading of substation sites/ towers locations, proper fencing to avoid electrocution hazards; proper designing of tower bases, proper storage and liquid impoundment for fuels, waste, raw materials so as to prevent spills/ leakages and contaminations of soil/ surface water etc.

Similarly during operation and maintenance stage by maintaining proper clearances in ROW (i.e. cutting and trimming of trees); by preventing noise from transformers etc (i.e. periodical examination of core bolts, core plates, loose external fittings etc.); by checking oil leakages from joints of transformers; by fire precaution from hazards due to ignition of insulating oil in oil filled switchgears/ transformers, the environment impacts be minimized/ eliminated.

The environmental and social impacts of transmission works are identified. While the projects are planned, constructed, operated and maintained, the mitigation measures are taken for addressing the social & environmental impacts.

Environmental and social risk assessment is a vital part of HVPNL's environmental and social management strategies. The risk assessment process identifies existing risks, and forecast future potential risks in its power transmission projects. It is a scientific process that

includes cost-benefit analysis. The environment and social management procedures developed by HVPNL evaluate these risks, both qualitatively and quantitatively, and prioritize them. Based on prioritization, environment and social management options are selected.

Based on the Environment Impact Assessment & Base line survey, the Environment Management Plan & Resettlement Action Plan of each transmission work is prepared by HVPNL.

INSTITUTIONAL FRAME WORK

This chapter detailed the Organizational Arrangements made by HVPNL to ensure effective implementation of its ESPP, HVPNL. ER&R committee at headquarter, Environment & Social Monitoring Committee (ESMC) at the Zonal level and Environment & Social Implementation Unit (ESIU) has also been constituted at the grass root level. Training and development of employees is integral to implementation of ESPP. In the beginning, training would be imparted to the executive/ non executive from National Power Training Institute (NPTI)/ PGCIL so as to enable them to understand the ESPP document, to take necessary steps in right time to implement. Thereafter, the training would be imparted at the HVPNL training institutes.

PUBLIC AWARENESS

Transmission projects do not create much environmental and social impacts which may result in resistance from public. In spite of this, HVPNL has a firm commitment towards public awareness of possible social & environmental impacts, however minor these may be. As a first step, as per Section 29 of Electricity (Supply) Act-1948, public notification of the projects is published in local newspaper to invite objections from Public within two months.

Before finalization of ESPP document, due consultation with public at large was done by issuance of the notice in the newspaper by making available the draft ESPP at circle headquarters and website of the corporation. The comments / suggestion offered by the public were given due weightage and incorporated in the ESPP.

Chapter-I

HARYANA VIDYUT PRASARAN NIGAM LIMITED (HVPNL)

Haryana power sector comprises of four wholly State-owned Nigams i.e. HPGCL, HVPNL, UHBVNL & DHBVNL which are responsible for power generation, transmission and distribution in the State. Earlier, all these activities were performed by the erstwhile Haryana State Electricity Board.

The State's power sector was restructured on August 14, 1998. The Haryana State Electricity Board (HSEB) was reorganized into two State owned corporations namely Haryana Vidyut Prasaran Nigam Ltd. (HVPNL) and Haryana Power Generation Corporation Ltd (HPGCL) on 14.08.1998. HPGCL was made responsible for operation & maintenance of State's owned power generating stations. HVPNL was entrusted the power transmission and distribution functions. Simultaneously, an independent regulatory body i.e. Haryana Electricity Regulatory Commission, was constituted on 16.08.1998 to aid and advise the State Government on the development of the power sector and take appropriate measures to balance the interest of various stake holders in the power sector namely electricity consumers, power entities and generation companies, etc.

HVPNL was further reorganized on July 01, 1999 by carving out two more corporations, namely Uttar Haryana Bijli Vitran Nigam Ltd. (UHBVNL) and Dakshin Haryana Bijli Vitran Nigam Ltd. (DHBVNL) with the responsibility of distribution and retail supply of power within their jurisdiction. While UHBVNL is responsible for Panchkula, Ambala, Yamuna, Kurukshetra, Kaithal, Karnal, Sonapat, Panipat, Rohtak, Jhajjar and Jind districts, DHBVNL caters to Hisar, Fatehabad, Bhiwani, Sirsa, Faridabad, Gurgaon, Rewari and Narnaul districts. These distribution companies at the moment are serving about 42 lac consumers of different categories.

HPGCL is looking after Generation of power. The total installed & contracted generation capacity available to the State as on April 2008 is **4368.01 MW**. The highest daily power supply of **1002.43 lac** units was on 20.8.2007 and the record maximum demand of **4826 MW** was met on 21.8.2007.

At present HVPNL has 256 Grid substations of voltage rating 66 kV to 220 kV along with 7844 Km of associated transmission lines. In addition there are 6 nos. 400 kV substations of PGCIL 2 Nos. 400 kV & 8 Nos 220 kV substation of BBMB located in Haryana which are catering to the load requirements of distribution companies. The abstract of the Grid substations is as under:-

Sr. No.	Name of substation	No. of substation as on 31.03.2008
1.	400 kV substation	6 (PGCIL) + 2 (BBMB) = 8
2.	220 kV substation	32 + 8* = 40
3.	132 kV substation	120
4.	66 kV substations	104

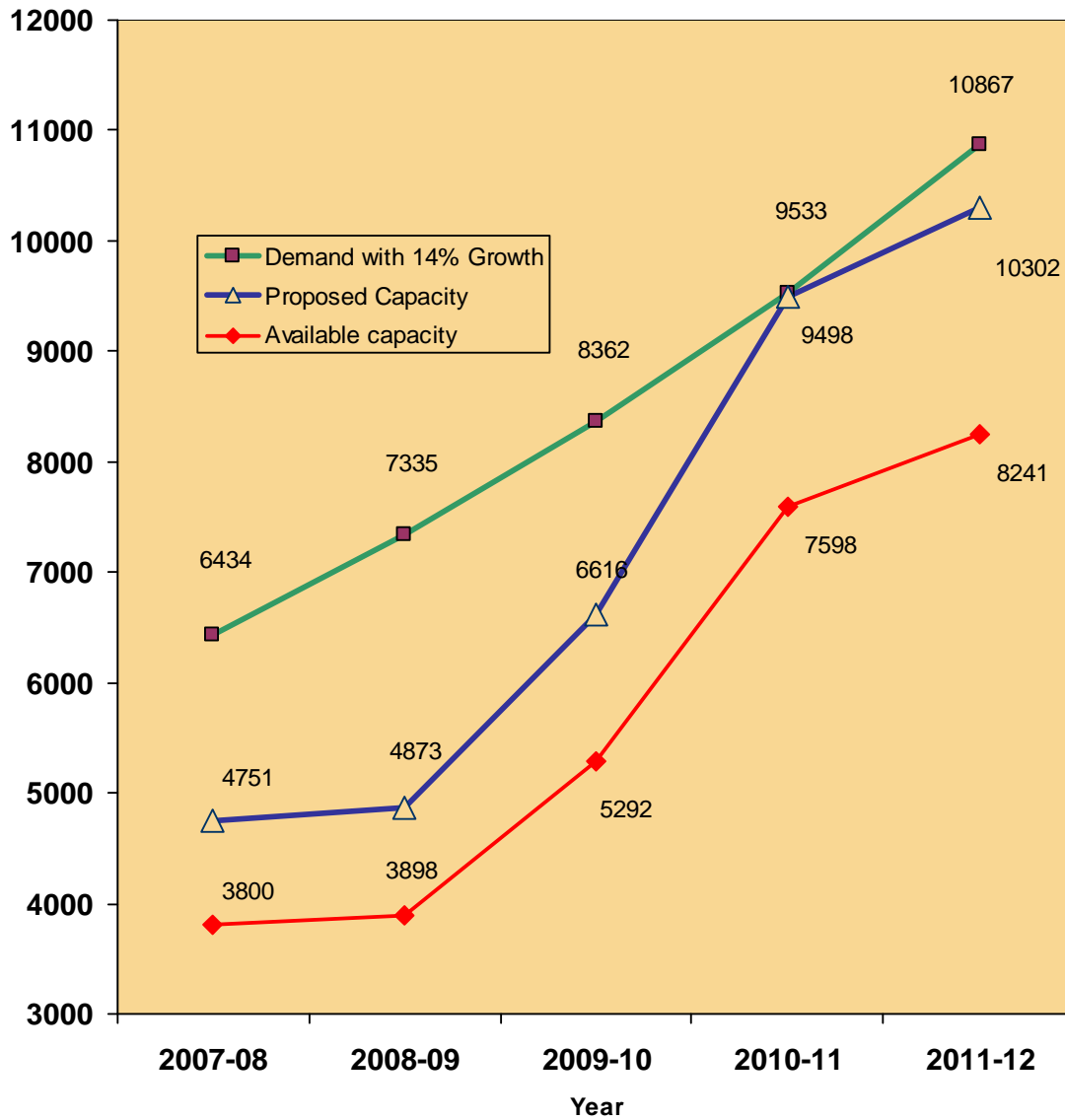
*including 8 No. 220 kV substations of Bhakra Beas Management Board (BBMB) in Haryana area.

Keeping in view of the expected 14 % growth, Haryana Power Sector has made a comprehensive capacity addition program for 11th plan as under:-

Sources of installed capacity	2007-08	2008-09	2009-10	2010-11	2011-12
State Owned Projects	1587.40	1587.40	1587.40	1587.40	1587.40
Central Sector Share	1514.40	1514.40	1514.40	1514.40	1514.40
Shared Projects - BBMB & IP	937.50	937.50	937.50	937.50	937.50
DCRTPP Yamuna Nagar	600.00	600.00	600.00	600.00	600.00
Hisar TPS (600X2) Mega Plant Status			1100.00	1100.00	1100.00

Plant Status					
Jhajjar Case- II ~(1150 ± 15%)*				1150.00	1150.00
Aravali STPS,Jhajjar (500*3) {Haryana:Delhi - 50:50}				750.00	750.00
Additional availability through PPA with IPPs/CPSU	111.70	233.70	876.70	1126.70	1930.70
Yamuna Nagar Extension				300.00	300.00
Faridabad Gas				432.00	432.00
Total Capacity (MW)	4751.00	4873.00	6616.00	9498.00	10302.0
Total Available Capacity (at 80% PLF)	3800.80	3898.40	5292.80	7598.40	8241.60

EXTRAPOLATED LOAD GROWTH, CAPACITY ADDITION & AVAILABLE CAPACITY (MW):



For evacuation of the proposed capacity addition of power, HVPNL has made a comprehensive transmission expansion program during 11th five year plan as under:-

<u>PROJECTS/SCHEMES</u>	Amount (Rs. Crore)		
	State Plan	Others	Total
Transmission			
New Sub Stations			
400 KV (6 Nos)	138.90	1361.10	1500.00
220 KV (40 Nos)	424.12	2267.88	2692.00
132 KV (51 Nos)	281.09	1179.91	1461.00
66 KV (49 Nos)	277.80	1222.20	1500.00
Augmentations of Existing Sub Stations	46.30	243.70	290.00
SLDC	37.04	162.96	200.00
Total Transmission	1205.25	6437.75	7643.00

With the strengthening of transmission system & improvised operation and maintenance of the existing system, HVPNL has been able to reduce its transmission losses upto 2.27 % (2007-08) and achieve transmission system availability of more than 99.5 % (March 2008).

Chapter-II

ENVIRONMENTAL AND SOCIAL POLICY AND PROCEDURES

Haryana Vidyut Prasaran Nigam Limited (HVPNL) has been a pioneer in promoting innovativeness and setting new standards in service delivery. It introduced tubular poles and mobile substations. It has permanent concerns towards social, environment and safety and endeavors to graduate to ISO 9001, ISO14000 and OSHAS 18000 standards.

I) ENVIRONMENT AND SOCIAL POLICY STATEMENT OF HVPNL

HVPNL is committed to identify, assess, and manage environmental and social concerns at both organization and project levels by strictly following the basic principals of avoidance, minimization and mitigation of environmental and social impacts with the improvement of Management Systems and introduction of State of the Art and proven technologies.

HVPNL assures to:

- Ensure total transparency on the project to all stakeholders through dissemination of information and consultation at every stage of project implementation;
- Maintain highest standards of corporate responsibility not only towards its employees but also to the consumers and the civil society, social responsibility through various community development activities for promoting socio-economic development and enriching the quality of life of the community in areas around its establishments, most importantly through people's participation;
- Minimize ecological impacts on environment, land and flora/fauna through progressive policies like consciously economizing on the requirement of land for civil structures and reducing the width of the Right of Way.

A) PRINCIPLES OF ENVIRONMENT AND SOCIAL POLICY

Based on the provisions available in various existing central, state acts and policies, HVPNL has formulated the environmental and social policy to address the adverse impacts in all its future transmission investment programs. The key principles of HVPNL's environmental and social policy are:

- Avoid carrying out operations in environmentally sensitive areas such as forests, national park, and biosphere reserves
- Consider environmental implications of location, terrain, and sensitive areas in impact identification and mitigate these with innovative / practical engineering solutions; through appropriate Environmental Management Plan (EMP) and/or Project Implementation Plan (PIP).
- Application of efficient and safe technology practices
- Abate pollution in all its activities and operations
- Minimizing energy losses and promote energy efficiency in all activities
- Avoid any disruption of socially, culturally and archaeologically sensitive areas. If impacted shall be conserved following the laws of land & EMP.
- Wherever losses are suffered, assistance will be provided to the affected persons to improve or at least regain their living standards;
- Consultations with potential affected persons will be held among local population regarding finalization of proposed route of the transmission lines and sub-stations;
- Delivering R&R entitlements and compensation for lost assets based on HVPNL's entitlement framework.
- Involuntary resettlement will be avoided or minimized by exploring all viable alternative project designs.

- All adversely affected persons including those without title to land will be provided assistance to improve or regain their living standards to the pre project levels.
- Special attention will be paid for the improvement of living standards of marginalized and vulnerable groups.
- Resettlement Action Plan (RAP) will be prepared in close consultation with the affected families to ensure their acceptability as well as timely delivery of entitlements and assistance.
- If any person's remaining land holding becomes operationally non viable, the entire holding will be acquired and compensated accordingly, if the affected person desires. A similar approach will be adopted for structures affected partially.
- Physical works will not commence on any portion of land before compensation and assistance to the affected population have been provided in accordance with the policy framework.
- As far as possible, HVPNL plans and conducts its construction activity after the harvests to avoid damage to crops. In case damage to standing crop is unavoidable, HVPNL provides compensation under LA Act.

HVPNL gives due consideration to address the environmental and social issues and accordingly plans to create suitable organizational structure to implement alternative mitigation measures systematically. **The policy and procedures will be subject to constant review in accordance with the law of land and guiding principles of avoidance, minimum disturbance and suitable remedial measures.**

II) ENVIRONMENT AND SOCIAL ISSUES IN TRANSMISSION PROJECTS

Construction and operation of transmission lines and substations may involve environmental and social concerns that are distinct from each other in terms of their nature of impacts. Some of the environmental and social issues that could arise from its projects are

unavoidable, and HVPNL seeks to address them through its management processes outlined in this document.

HVPNL has a vast transmission network of Transmission lines and substations spread across Haryana catering to the needs of distribution companies operating in the state. HVPNL has identified environmental and social issues typically associated with its projects as below.

ENVIRONMENTAL ISSUES

1. Lopping of Trees within Right of Way

Minimum cutting of trees is done within right of way. Clearance from the forest department is invariably taken.

2. Clearing of Ground vegetation for movement of Machinery

Due care is taken in movement of machinery so that minimum damage is done to ground vegetation. Due compensation is given for any such minimum damage also.

3. Clearing of Ground vegetation for substations

Due care is taken in movement of machinery so that minimum damage is done to ground vegetation. Due compensation is given for any such minimum damage also. In addition efforts are always made to procure barren land and not fit for agriculture.

4. Used transformer oil

The used transformer oil is disposed off with utmost care as per prescribed norms so that no pollution or environmental effect is there.

5. Disposal of used batteries and capacitor bank.

The used battery and capacitors banks are disposed off (auctioned) as per the prevalent rules. The same are auctioned only to those firms who hold valid license from the concerned department/ regulatory body.

6. The power transformers containing PCBs have been phased out and no power equipment with PCBs are in use.

SOCIAL ISSUES

Social issues associated with transmission projects are mainly related to land acquisition carried out for substation sites. No land is acquired for footing towers. However, HVPNL exercises flexibility in setting substations as well as footing towers. HVPNL has developed in-house capacity to build safe towers at railway, highway, and other crossings. The following are the likely adverse impacts in case of lines and substations.

Transmission Lines:

- Temporary disturbance during construction and erection of transmission towers and stringing.
- Loss of crop.
- Change in land prices.
- Aesthetic appeal of an area is affected.
- Temporary loss of access to common property resources.
- Temporary change in land use intensity.
- Restriction on the height of trees to be grown under transmission lines.

Substations

- Loss of land
- Loss of house/structures/trees/crops
- Loss of livelihood due to acquisition of private agricultural land
- Loss of common property resources due to acquisition of revenue land.

III) NEED FOR A ENVIRONMENTAL SOCIAL POLICY AND PROCEDURES

The growing economic intensity, high rate of development with the coming up of Special Economic Zones (SEZs) and private developers limits the availability of land and thus warrants the HVPNL to formulate its Policy and Procedures to avoid and mitigate social and environmental adversities.

HVPNL is keen to ensure a fair, efficient and transparent handling of all matters relating to land acquisition and involuntary resettlement, including loss of assets and other negative impacts on Affected Persons (APs) resulting from its investment program, irrespective of sources of financing. In this context, HVPNL has formulated the Environmental Social Policy and Procedures (ESP&P) consistent with relevant national and Haryana's policies and regulations, including 'inter-alia' the Indian Electricity (Supply) Act 1948, Indian Electricity Rules, 1956 and Indian Electricity Act 2003. The main objective of the ESP&P is to provide overall policy and procedural framework which will govern the actions of HVPNL to mitigate the adverse social and environmental impacts resulting from its transmission investment program by means of EMP & RAP for sub projects.

Chapter-III

POLICY, LEGAL AND REGULATORY FRAMEWORK

MANDATORY ENVIRONMENTAL REQUIREMENTS FOR HVPNL AT A STATE LEVEL INCLUDE:

1. Haryana Electricity Reforms Act 1997 & Electricity Act, 2003 :

As per provision contained in above mentioned Acts HVPNL has authority to install transmission towers in any kind of land. Electricity Act, 2003 seeks to create a framework for the power sector development by measures conducive to the industry. Electricity Act does not explicitly deal with environmental implications of activities related to power transmission. However, HVPNL integrates environmental protection as a part of its project activities. Power transmission schemes are planned in such a way that the power of eminent domain is exercised responsibly.

The main features of Electricity (Supply) Act, 1948 and Haryana Electricity Reforms Act, 1997 and Electricity Act, 2003 are as per **Annexure-I** containing relevant Sections i.e. Section 42 of Supply Act 1948, Sec. 67, 68 & 164 of Electricity Act, 2003.

2. THE FOREST (CONSERVATION) ACT, 1980;

This Act provides for the conservation of forests and regulating diversion of forestlands for non-forestry purposes. When transmission projects falls within forestlands, prior clearance is required from relevant authorities under the Forest (Conservation) Act, 1980. State governments cannot de-reserve any forestland or authorize its use for any non-forest purposes without approval from the Central government.

The steps for forest clearance are briefly described below

A) ROUTE ALIGNMENT

Preliminary route selection for transmission lines is done by using tools such as the forest atlas and Survey of India maps. During route alignment, all possible efforts are made to avoid the forest area (like national park and sanctuaries) or to keep it to the barest minimum. Whenever it becomes unavoidable due to the geography of terrain or heavy cost involved in avoiding it, different alternative options are considered to minimize the requirement of forest area. Modern tools like GIS/GPS will be used for finalization of route. For selection of optimum route, the following criteria are taken into consideration:

- (i) The route of the proposed transmission lines does not involve any human habitation;
- (ii) Any monument of cultural or historical importance is not affected by the route of the transmission line;
- (iii) The proposed route of transmission line does not create any threat to the survival of any community;
- (iv) The proposed route of transmission line does not affect any public utility services such as playgrounds, schools and other establishments;
- (v) The line route does not pass through any sanctuaries, National Park, Biosphere reserves or eco-sensitive zones; and
- (vi) The line route does not infringe with area of natural resources.

To achieve this, route selection of transmission lines is undertaken in close consultation with representatives from the State forest departments and the Department of Revenue. Alterations are made to avoid environmentally sensitive areas and settlements at execution stage. A environmental screening format for route selection for construction of substations and transmission lines is as per Annexure XII.

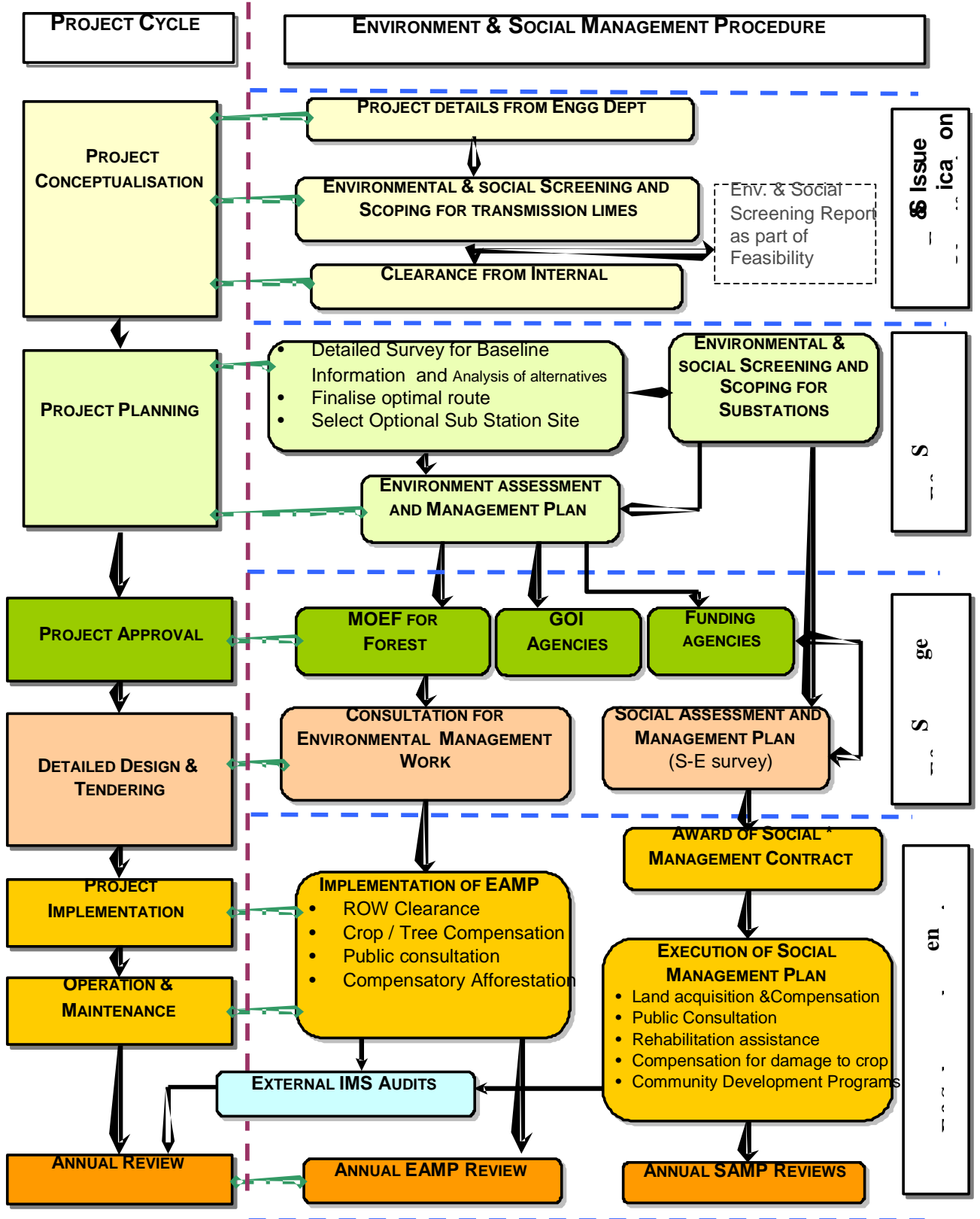
B) RIGHT OF WAY

Right of Way (ROW) width depends on the line voltage. A maximum width of ROW for transmission lines on forest land and minimum clearances between conductors and trees to be adhered in route selection as specified in IS: 5613 and by the MOEF guidelines given below:-

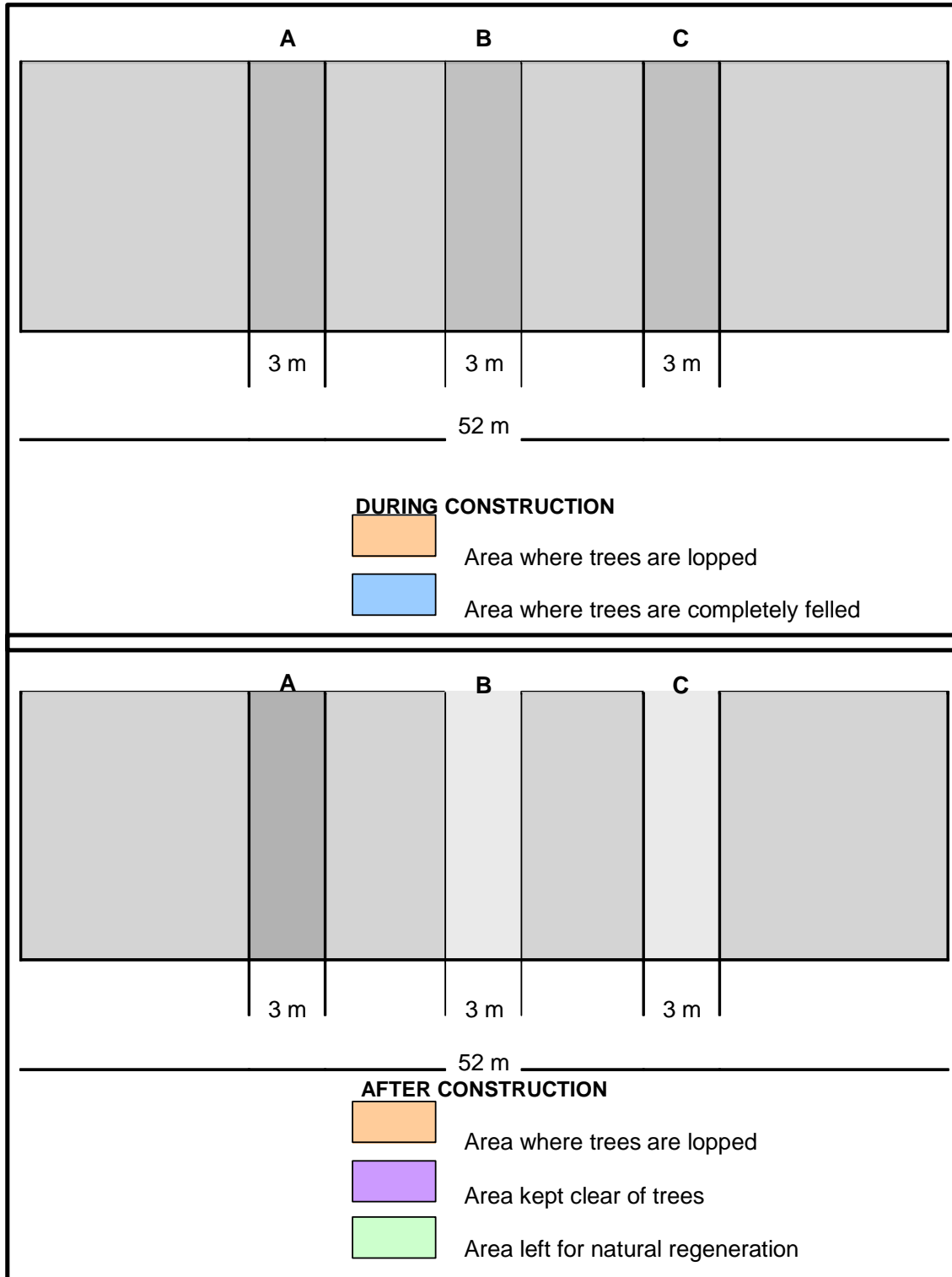
ROW CLEARANCE BETWEEN CONDUCTORS AND TREES

TRANSMISSION VOLTAGE (IN KV)	MAX. ROW* (IN METERS)	MINIMUM CLEARANCE BETWEEN CONDUCTORS & TOPS OF TREES* (IN METERS)
66 kV	18	3.4
132 kV	27	4.0
220 kV	35	4.6
400 kV	52	5.5

MOEF guidelines are available at **Annexure- VII**. Below each conductor clearance of 3 meters is permitted for taking the tension string equipment. The trees on such strips are felled but after stringing is complete dwarf trees are planned keeping in view the electrical clearance to be maintained except in one outer strip which shall be left clear to permit maintenance of the transmission lines. Chart depicting the trees falling zone/ requirement as per MOEF guidelines is given at **Annexure- VII**.

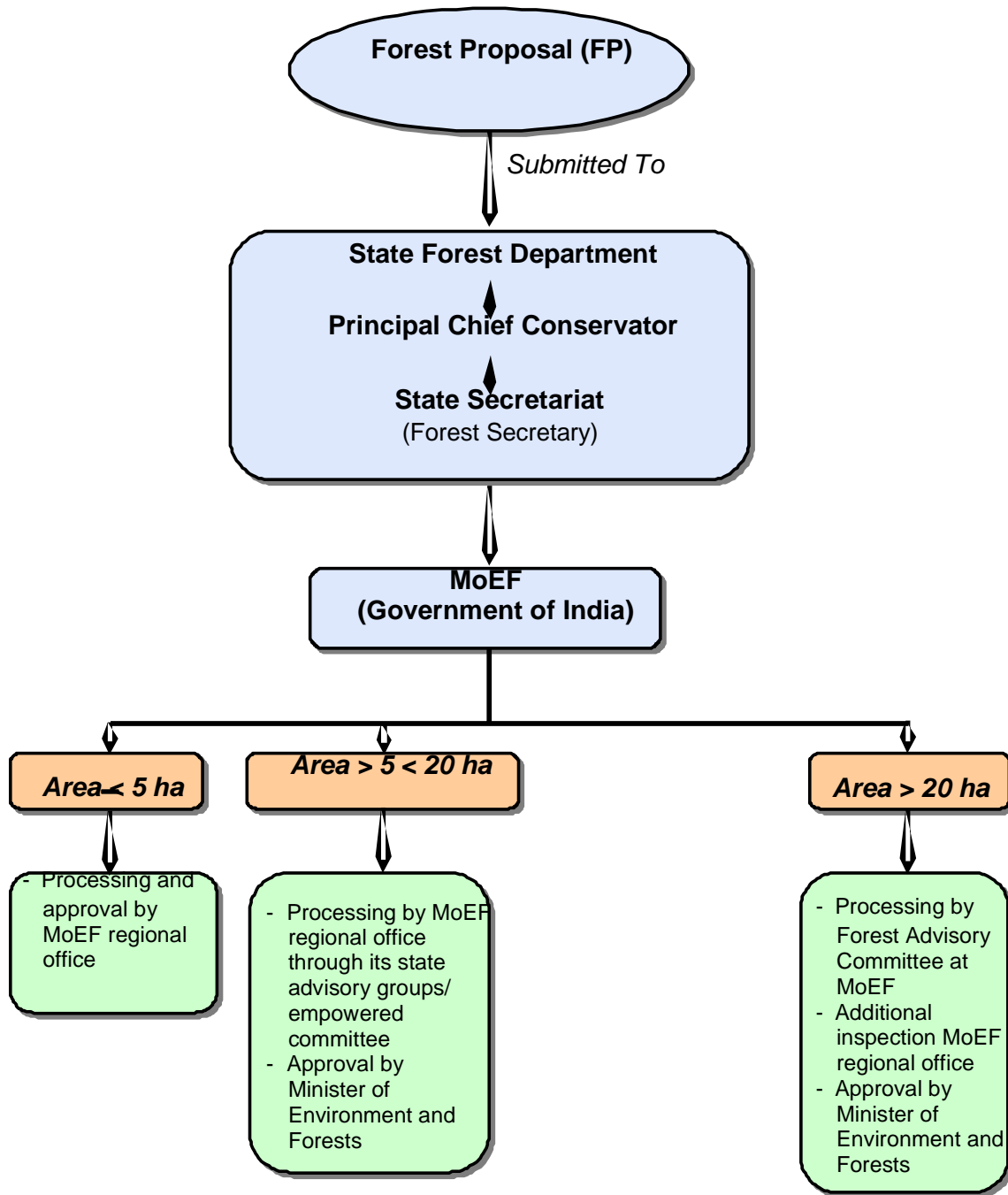


RIGHT OF WAY IN FOREST: 400 Kv S/C



Above chart depicts the tree felling zone/requirement as per MoEF guidelines for construction of transmission lines in forest area.

FIGURE : FOREST CLEARANCE APPROVAL PROCESS



C) FORMULATION OF FOREST PROPOSAL

After finalization of route-alignment and ROW width and if the ROW passes through forest area, HVPNL submits details in prescribed performa (**Annexure-II**) to the respective

Nodal Officer (Forest) of State Government. Nodal Officer forwards the details to the concerned Divisional Forest Officer (DFO) for formulation of forest proposal for processing of clearance under the Forest (Conservation) Act, 1980. The DFO then surveys the relevant forest area required for the construction of transmission line under the possible alternatives. The proposal is submitted to the state forest department and then forwarded to the principal chief conservator of forests in the state and finally to the state secretariat. The State Government recommends the proposal for further processing and approval to:-

- a) Concerned Regional Office of the MoEF if the area involved is 40 hectare or less
- b) MoEF, New Delhi if the area is more than 40 hectare

The MoEF approves the proposal in two stages. In principle or first stage approval is accorded with certain conditions depending upon the case. Second stage or final approval is accorded by the MoEF after receiving the compliance report from State Government. The approval process is given as under:

ENVIRONMENT (PROTECTION) ACT, 1986,

The Environment (Protection) Act, 1986 was introduced as an umbrella legislation that provides a holistic framework for the protection and improvement to the environment. In terms of responsibilities, the Act and the associated Rules requires for obtaining environmental clearances for specific types of new / expansion

projects (addressed under Environmental Impact Assessment Notification, 1994) and for submission of an environmental statement to the State Pollution Control Board annually. Environmental clearance is not applicable to Power transmission projects as per project categories given in **Annexure-III**. A notifications with regard to Environment protection of specified area of Aravali range and & list of projects or activities requiring prior environmental clearances as per MOEF, GOI-- EIA 2006 notifications are also annexed as Annexure III.

DECLARATION OF ECO-SENSITIVE ZONES BY HARYANA GOVERNMENT

Haryana Government vide its letter No. 1471-Ft-4-2007/3281 dated 6.3.2007 has submitted a proposal to Ministry of Environment & Forests Government of India for declaration of eco-sensitive zones around all the National parks & Wildlife Sanctuaries in the State as per **Annexure-XI**. The notification of the eco-sensitive zone prohibiting certain activities is yet to be issued by Government of India under Environment Protection Act. National parks includes Kalesar National Park Yamunanagar, Sultanpur National park, Gurgaon. Wildlife Sanctuaries includes Bhihdawas Sanctuary, Jhajjar, Nahar sanctuary, Rewari, Chhilchhila Sanctuary, Kurukshetra, Bir Shikargarh Sanctuary, Panchkula, Abubshihar Sanctuary, Sirsa Saraswati Sanctuary, Kaithal & Kurukshetra, Khaparwas Sanctuary Jhajjar, Bir Bara Ban, Jind, Kalesar Sanctuary, Yamunanagar, Morni Sanctuary, Panchkula.

Since transmission line projects are non polluting in nature and do not involve any disposal of solid waste, effluents and hazardous substances on land, air and water, so limited requirements of Environment (Protection) Act, 1986 are applicable. However, through a notification under the Environment (Protection) Act, 1986 power transmission projects located in Aravali region in Gurgaon in Haryana will require environmental clearance from the MoEF.

HVPNL undertakes environmental assessment for all projects as a standard management procedure as laid down in the ESPP and also functions within permissible standards of ambient air quality and noise levels as prescribed by national laws and state regulations.

Other rules and regulations under the Environmental (Protection) Act, 1986 applicable to the operation of HVPNL are described below:

A) BATTERIES (MANAGEMENT AND HANDLING) RULES, 2001

MoEF under Section 6, 8 and 25 of the Environment (Protection) Act, 1986 has put certain restriction on disposal of used batteries and its handling. As per the notification dated 16th may 2001, it is the responsibility of bulk consumer (HVPNL) to ensure that the used batteries are disposed at or deposited with the dealer, manufacturer or to registered recycler

for handling and disposal. HVPNL is observing these restrictions and disposing off the batteries as per the provisions of the above notifications, half yearly return is required to be filed as per Form 8 (**Annexure- IX**) to the concerned State Haryana Pollution Board.

B) HAZARDOUS WASTES (MANAGEMENT AND HANDLING) AMENDMENT RULES, 2003

These Rules classify used mineral oil as hazardous waste under the Hazardous Waste (Management & Handling) Rules, 2003 that requires proper handling and disposal. The requirements for disposal of used mineral oil as per these Rules are as follows

- 1 The used oil can be sent / sold for re-refining to registered recyclers, if it meets the specification in Schedule –5 of rules
- 2 The waste oil which is not suitable for re-refining (i.e. does not meet the specifications listed in Schedule-5), can be used in furnaces if it meets the specifications laid down in Schedule –6 of rules
- 3 Any waste oil which does not meet the specification in Schedule–6 shall not be auctioned or sold, but shall be disposed in hazardous waste incinerator.

Used mineral oil generated at the HVPNL substations meet the requirements of Schedule 5 of the above Rules. HVPNL will seek authorization for disposal of hazardous waste from concerned State Pollution Control Boards (SPCB) as and when required. This oil will be auctioned to authorized/registered re-refiners and submit the information to the respective SPCB as per Form -13.

* Schedule 5 & 6 are depicted in **Annexure-V**

* Form-13 **Annexure-VI**

C) OZONE DEPLETING SUBSTANCES (REGULATION AND CONTROL) RULES, 2000

MoEF under the section of 6, 8 and 25 of the Environment (Protection) Act, 1986 has notified rules for regulation/ control of Ozone Depleting Substances (ODS) under Montreal Protocol. As per the notification, certain control and regulation has been imposed on manufacturing, import, export, and use of these compounds..

4. CONSERVATION OF NATURAL RESOURCE RELATED LAWS

HVPNL is fully conscious of the need to conserve the natural resources and avoids ecologically sensitive areas as far as possible. In case traversing forestland is unavoidable, clearance from forest authorities is obtained under the Forest (Conservation) Act, 1980. Other relevant legislations having bearing on the proposal of HVPNL are:

- 1 Indian Forest Act 1927, which classifies forests and controls extraction and transit of timber and other forest produce
- 2 Forest (Conservation) Act 1980 places restrictions on state governments concerning diversion of forestlands for non-forest purposes
- 3 National Forest Policy 1988 envisages people's involvement in development and protection of forests
- 4 Wildlife Protection Act 1972 deals with the management of protected areas (national park and sanctuaries). It contains provisions for controlling trade in wildlife products, including ban on hunting of specified animals.

THE ANCIENT MONUMENTS, ETC. REMAINS ACT, 1958:

The ESPP of the Company (HVPNL) would consider the statutory mandatory requirements of the Ancient Monuments, etc. Remains Act, 1958 and shall avoid such areas but if per chance finds such portion of land falling under the provisions of said Act, the same shall be excluded from the project area of HVPNL.

THE ANTIQUITIES AND ART TREASURES ACT, 1972:

The ESPP of the Company (HVPNL) shall consider the statutory mandatory requirements of the Antiquities and Art Treasures Act, 1972 and shall immediately inform the authorities under the said Act, if any of the Antiquities and Art treasures are found per chance in the land falling under the project area of the Company and Chance find procedure shall be followed as per Act.

Panchayat (Extension to Scheduled Areas) Act, 1996 (PESA), The Scheduled Tribes and other Traditional Forest Dwellers Act, 2006

The above acts are not applicable to State of Haryana as there are no scheduled tribes in Haryana.

5. HEALTH AND SAFETY REQUIREMENTS

HVPNL maintains safety as a top priority, apart from various labour laws dealing with workers' health and safety. HVPNL has a dedicated health unit to oversee all health aspects of its project employees under the Director/ health and has framed safety codes in both English & Hindi, guidelines/ checklist for workers' safety as its personnel are exposed to live EHV apparatus and transmission lines. All supervisory technical official of HVPNL are required to pass safety code test. These guidelines/ codes include work permits, frequently asked questions and safety precautions for work on the transmission lines during construction and operation. An extract from safety code consisting of Dos & Don'ts for workers on substation & transmission line equipments are attached as **Annexure- VIII**.

There have been some concerns about the possibility of an increased risk of cancers from exposure to electromagnetic radiations from overhead transmission lines. A World Health Organization (WHO) review held as part of International EMF project concluded that

“ From current specific literature there is no convincing evidence that exposure through radiations field shortens the span of humans or induces or promotes cancers”.

I. Indian Electricity Rules -1956

These contain set of rules for general safety requirements and conditions relating to supply and use of energy. Some of these stipulations are as under: -

- i. Minimum clearances prescribed in the Indian Electricity Rules 1956 bare conductors or live parts or any apparatus **in outdoor substations** excluding overhead lines of HV installations are: -

Voltage Class	Ground Clearance (meters)	Sectional Clearance (meters)
Not exceeding 11 kV	2.75	2.6
Not exceeding 33 kV	3.70	2.8

Not exceeding 66 kV	4.0	3.0
Not exceeding 132 kV	4.6	3.5
Not exceeding 220 kV	5.5	4.3
Not exceeding 400 kV	8.0	6.5

II. CLEARANCE ABOVE GROUND OF LOWEST CONDUCTOR

(1)	For overhead lines across a street	
(a)	Low & medium voltage lines	5.8 meters
(b)	High voltage lines	6.1 meters
(2)	For overhead lines along a street	
(a)	Low & medium voltage lines	5.5 meters
(b)	High voltage lines	5.8 meters
(3)	For overhead lines erected elsewhere than along or across street	
(a)	33 kV	5.2 meters
(b)	66 kV	5.5 meters
(c)	132 kV	6.1 meters
(d)	220 kV	7.0 meters
(e)	400 kV	8.5 meters

III. PRESCRIBED VERTICAL CLEARANCE FROM BUILDINGS ON BASIS OF MAXIMUM SAG

Sr. No.	Line categorization	Minimum clearance (meters)
1.	33 kV	3.7
2.	66 kV	4.0
3.	132 kV	4.6
4.	220 kV	5.5
5.	400 kV	7.3

IV. PRESCRIBED HORIZONTAL CLEARANCE FROM BUILDINGS ON BASIS OF MAXIMUM DEFLECTION DUE TO WIND PRESSURE

Sr. No.	Line categorization	Minimum clearance (meters)
1.	33 kV	2.0
2.	66 kV	2.3
3.	132 kV	2.9
4.	220 kV	3.8
5.	400 kV	5.3

V. PRESCRIBED MINIMUM CLEARANCE IN METERS BETWEEN LINES CROSSING EACH OTHER

Sr. No.	Nominal system voltage	11-66 kV	110-132 kV	220 kV	400 kV	800 kV
1.	11-66 kV	2.44	3.05	4.58	5.49	7.94
2.	110-132 kV	3.05	3.05	4.58	5.49	7.94

3.	220 kV	4.58	4.58	4.58	5.49	7.94
4.	400 kV	5.49	5.49	5.49	5.49	7.94
5.	800 kV	7.94	7.94	7.94	7.94	7.94

1. ENVIRONMENT REQUIREMENTS of FUNDING AGENCIES –

Major Funding Agencies relating to HVPNL are *Power Finance Corporation (PFC)*, *NCR Planning Board (NCRPB)*, *Rural Electrification Corporation (REC)*, *World Bank (WB)*, and *Japan Bank for International cooperation (JBIC)*. Operational policies of 4.01 of World Bank & Environmental guidelines of JBIC, Operational Manual (OM) F1/ BP of Asian Development Bank cover the environment requirement of these funding agencies.

The funding agencies policy and procedures for environmental assessment (EA) of different developmental projects are outlined in these policies and guidelines. Mostly transmission line projects in Haryana have limited impact which are minimized through mitigation/ management measures and, therefore, require only an environmental review and may be subjected to Environmental Assessment (EA) only.

EA is initiated as early as possible in project cycle and undertaken concurrently with economic, financial, institutional, social, and technical analysis of the project. Transmission projects do not have irreversible impact to environment, human population, and wild life including wetlands, forests, grassland and other natural habitats. Moreover, HVPNL takes appropriate measures to prevent, minimize, mitigate, or compensate for adverse impact and improve environmental performance. EA takes into account the natural environment, human health and safety, and social aspects and trans-boundary and global environmental aspects. During EA process, public is kept informed at every stage of project execution and their views are respected in decision-making.

WORLD BANK OP- 4.36 ON FOREST –

This policy applies to the following types of Bank-financed investment projects:

- a) projects that have or may have impacts on the health and quality of forests;

- b) projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and
- c) projects that aim to bring about changes in the management, protection, or utilization of natural forests or plantations, whether they are publicly, privately, or communally owned.

The OP aims to reduce deforestation, enhance the environmental contribution of forested areas, through promoting afforestation, reduce poverty, and encourage economic development. It places restriction on project disturbing forest having high environment and ecological value and that may contravene international environment agreements.

HVPNL's emphasis is always on avoidance of forests or minimizing to the extent possible through careful route selection. However, where unavoidable, measures are adopted, including special design for towers, to minimize ROW requirements and forest losses HVPNL pays the forest departments to carry out CA on twice the area affected by its operations to compensate for loss of vegetation and also to increase the forest cover in the larger national interest.

WORLD BANK OP-4.11 ON PHYSICAL CULTURAL RESOURCES –

This policy addresses physical cultural resources, which are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community. 2. Physical cultural resources are important as sources of valuable scientific and historical information, as assets for economic and social development, and as integral parts of a peoples cultural identity and practices.

OBJECTIVE

The Bank assists countries to avoid or mitigate adverse impacts on physical cultural resources from development projects that it finances. The impacts on physical cultural resources resulting from project activities, including mitigating measures, may not contravene

either the borrower's national legislation, or its obligations under relevant international environmental treaties and agreements.

The OP pertains to preservation, protection, and enhancement of important and significant cultural properties. It sets out restriction on projects that will significantly damage non-replicable cultural property.

Due to inherent flexibility in routing of transmission lines, importance is accorded to significant cultural properties to avoid them totally. Archaeological Survey of India (ASI), body that supervise protection of these properties, is consulted while finalizing route alignment. Similarly, substations are located in such a way that the cultural property sites and structures are best avoided.

WORLD BANK OP- 4.04 ON NATURAL HABITATS –

The Bank promotes and supports natural habitat conservation and improved land use by financing projects designed to integrate into national and regional development the conservation of natural habitats and the maintenance of ecological functions. Furthermore, the Bank promotes the rehabilitation of degraded natural habitats. The Bank does not support projects that, in the Bank's opinion, involve the significant conversion or degradation³ of critical natural habitats.

It pertains to policies for conservation of natural habitats such as National Park, Sanctuaries, Game Reserves, and Biosphere Zones. The bank does not support any project involving significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting.

HVPSNL avoid these areas altogether during route alignment. However, in some cases due to location of generation projects/ substations particularly in Hydro project, it becomes very difficult to totally avoid these areas. Special measures that protect and enhance the environment, which is essential for long-term sustainable development of natural habitats, are undertaken. Placing of tall towers, multi-circuit tower to minimize impact as well as providing financial assistance towards planning and implementing mitigation measures for protection of natural habitat is provided to authorities responsible for protection/ conservation of these protected areas.

MANDATORY SOCIAL REQUIREMENTS FOR HVPNL AT A STATE LEVEL INCLUDE

1. The ESPP of the company (HVPNL) considered all the mandatory requirements of the national and state policies and acts and also the guidelines of funding agencies in addressing the social and environmental issues arising out of its activities.

All land acquisition for any public purpose in the state is governed by the Land Acquisition Act 1894 as amended from time to time by the State Govt. This empowers the government to acquire compulsorily any land not owned by it which is required for a public purpose. The definition of land includes benefits to arise out of land & things attached to earth or permanently fastened to any thing attached to the earth. This act applies to those with legal entitlements to land and structures thereon.

PROCEDURE FOR LAND ACQUISITION

- i. For any LA the Act under section(u/s)-4(1) stipulates publication of a notification to that effect in the official Gazette and in 2 daily newspapers circulated in the locality, at least, one shall be in the regional language. Such a publication authorizes an authorized officer to enter upon such a land make a preliminary survey ascertain its suitability and determine the exact position of land to be acquired. However, person can enter into any building or any enclosure attached to a dwelling house either by giving notice of seven days to the occupant or with the consent of occupant. The substance of this notification is given as public notice at a convenient place in the locality in which the land to be acquired is located, such a notification provides an opportunity to the parties interested in the land to file objections if any, u/s-5A to the proposed acquisition.
- ii. In order to proceed with the acquisition of the land (as notified u/s-4) it is followed by declaration u/s 6 of the ibid Act specifying that land is required for public purpose. Every declaration is published in the official Gazette and in two daily newspapers with circulation in the local area, thereafter revenue Department issues direction to the Collector u/s-7 of the Act to take order for the acquisition of notified land to be marked out, measured land/or other immovable properties, which is done under the provision of Sec.8 of the act in question. Thereafter under the provisions contained

in Sec.-9 notices are served to the concerned persons stating the intention of the Government to take possession of the land and that any claims for compensation should be made to the Collector, Finally, the award of compensation is made by the collector u/s-11 of the Act after inquiring into objections(if any) in pursuance of the notice given u/s-9 to the measurements made u/s-8 and into the value of the land on the date of publication of the notification/s4(1). The award u/s-11 is made within two years from the date of publication of the declaration and if no award is made within this period, the entire proceedings of the LA is lapsed and fresh notification u/s-(4) needs to be initiated. Once the award is passed, the collector takes possession of the land which there upon vests absolutely in the Government free from all encumbrances. However, in case of urgency Section-17 of the Act empowers the Collector to take possession of the land even though no award has been made. Such land thereupon vests with the Government free from all encumbrances. HVPNL will recommend the Land Acquisition Collector to acquire land under emergency clause only in such cases where land is urgently required for emergent transmission projects.

However, this Act further provides remedy for seeking enhancement of compensation by the person to seek enhancement of compensation in lieu of acquired as per provisions contained in Sec.18 of ibid Act.

This act was further amended in 1984 with respect to sections 4,23,28 and 34 which deal with publication of primary notification determination of compensation; power of the court in determining the amount of compensation; interest on compensation and payment of interest respectively. To sum up the amended provisions have resulted in the following :-

- The publication of the primary notification, apart from the Official Gazette, has to be made in two daily newspapers circulated in that locality of which at least one shall be in the regional language.
- In addition to the market value of the land the court is to award a sum of thirty percent as solatium on such market value in consideration of the compulsory nature of the acquisition.

- The amount of compensation awarded by the court is not to be lower than the amount awarded by the collector.
- The interest of excess compensation has been enhanced from 9 per cent to 15 per cent after the date of expiry of a period of one year from the date on which possession has been taken.

HVPNL strictly follows procedures laid down under the Land Acquisition Act (LA Act), 1894, when land is acquired for sub-stations. Once the award is passed, the collector takes possession of the land which there upon vests absolutely in the Government free from all encumbrances. These are further reinforced taking into consideration HVPNL's entitlement framework and public consultation process apart from inbuilt consultation process of LA act, public consultation/information by HVPNL is an integral part of the project implementation. Public is informed about the project at every stage of execution by Press Notes and media etc. During socio-economic survey taken up parallelly with land acquisition process, HVPNL's site officials meet people and inform them about the Land acquisition details, proposed R&R measures and compensation packages

2. THE NATIONAL REHABILITATION AND RESETTLEMENT POLICY, 2007

Ministry of Rural Development (Department of Land Resources), GOI, notified the National *Rehabilitation and Resettlement Policy, 2007 on dated 31.10.2007.*

The objectives of the National Rehabilitation and Resettlement Policy are as follows:-

- (a) to minimise displacement and to promote, as far as possible, non-displacing or least-displacing alternatives;
- (b) to ensure adequate rehabilitation package and expeditious implementation of the rehabilitation process with the active participation of the affected families;
- (c) to ensure that special care is taken for protecting the rights of the weaker sections of society, especially members of the Scheduled Castes and Scheduled Tribes, and to create obligations on the State for their treatment with concern and sensitivity;

- (d) to provide a better standard of living, making concerted efforts for providing sustainable income to the affected families;
- (e) to integrate rehabilitation concerns into the development planning and implementation process; and
- (f) where displacement is on account of land acquisition, to facilitate harmonious relationship between the requiring body and affected families through mutual cooperation.

Rehabilitation and Resettlement Benefits for the Affected Families as per Clause 7 of *National Rehabilitation and Resettlement Policy, 2007.*

7.1 The rehabilitation and resettlement benefits shall be extended to all the affected families who are eligible as affected families on the date of publication of the declaration under paragraph 6.1, and any division of assets in the family after the said date may not be taken into account.

7.2 Any affected family owning house and whose house has been acquired or lost, may be allotted free of cost house site to the extent of actual loss of area of the acquired house but not more than two hundred and fifty square metre of land in rural areas, or one hundred and fifty square metre of land in urban areas, as the case may be, for each nuclear family:

Provided that, in urban areas, a house of up to one hundred square metre carpet area may be provided in lieu thereof. Such a house, if necessary, may be offered in a multi-storied building complex.

7.3 Each affected below poverty line family which is without homestead land and which has been residing in the affected area continuously for a period of not less than three years preceding the date of declaration of the affected area and which has been involuntarily displaced from such area, shall be entitled to a house of minimum one hundred square metre carpet area in rural areas, or fifty square metre carpet area in urban areas (which may be offered, where applicable, in a multi-storied building complex), as the case may be, in the resettlement area:

Provided that any such affected family, which opts not to take the house offered, shall get a suitable one-time financial assistance for house construction, and the amount shall not be less than what is given under any programme of house construction by the Government of India.

7.4.1 Each affected family owning agricultural land in the affected area and whose entire land has been acquired or lost, may be allotted in the name of the *khatedar(s)* in the affected family, agricultural land or cultivable wasteland to the extent of actual land loss by the *khatedar(s)* in the affected family subject to a maximum of one hectare of irrigated land or two hectares of un-irrigated land or cultivable wasteland, if Government land is available in the resettlement area. This benefit shall also be available to the affected families who have, as a consequence of the acquisition or loss of land, been reduced to the status of marginal farmers.

7.4.2 In the case of irrigation or hydel projects, the affected families shall be given preference in allotment of land-for-land in the command area of the project, to the extent possible. Such lands may be consolidated, and plots of suitable sizes allotted to the affected families who could be settled there in groups. In case a family cannot be given land in the command area of the project or the family opts not to take land there, such a family may be given monetary compensation on replacement cost basis for their lands lost, for purchase of suitable land elsewhere.

7.4.3 In the case of irrigation or hydel projects, the State Governments may formulate suitable schemes for providing land to the affected families in the command areas of the projects by way of pooling of the lands that may be available or, otherwise, could be made available in the command areas of such projects.

7.5 (a) In the case of irrigation or hydel projects, fishing rights in the reservoirs shall be given to the affected families, if such rights were enjoyed by them in the affected area; (b) In other cases also, unless there are special reasons, fishing rights shall be given preferentially to the affected families.

- 7.6 In case of a project involving land acquisition on behalf of a requiring body, the stamp duty and other fees payable for registration of the land or house allotted to the affected families shall be borne .by the requiring body.
- 7.7 The land or house allotted to the affected families under this policy shall be free from all encumbrances.
- 7.8 The land or house allotted to the affected families under this policy may be in the joint names of wife and husband of the affected family.
- 7.9.1 In case of allotment of wasteland or degraded land in lieu of the acquired land, each *khatedar* in the affected family shall get a one-time "financial assistance of such amount as the appropriate Government may decide but not less than fifteen thousand rupees per hectare for land development.
- 7.9.2 In case of allotment of agricultural land in lieu of the acquired land, each *.khatedar* in the affected family shall get a one-time financial assistance of such amount as the appropriate Government may decide but not less than ten thousand rupees, for agricultural production.
- 7.10 Each affected family that is displaced and has cattle, shall get financial assistance of such amount as the appropriate Government may decide but not less than fifteen thousand rupees, for construction of cattle shed.
- 7.11 Each affected family that is displaced shall get a one-time financial assistance of such amount as the appropriate Government may decide but not less than ten thousand rupees, for shifting of the family, building materials, belongings and cattle.
- 7.12 Each affected person who is a rural artisan, small trader or self-employed person and who has been displaced shall get a one-time financial assistance of such amount as the appropriate Government may decide but not less than twenty-five thousand rupees, for construction of working shed or shop.
- 7.13.1 In case of a project involving land acquisition on behalf of a requiring body,-

- (a) the requiring body shall give preference to the affected families – at least one person per nuclear family - in providing employment in the project, subject to the availability of vacancies and suitability of the affected person for the employment;
- (b) wherever necessary, the requiring body shall arrange for training of the affected persons, so as to enable such persons to take on suitable jobs; .
- (c) the requiring body shall offer scholarships and other skill development opportunities to the eligible persons from the affected families as per the criteria as may be fixed by the appropriate Government;
- (d) the requiring body shall give preference to the affected persons or their groups or cooperatives in the allotment of outsourced contracts, shops or other economic opportunities coming up in or around the project site; and
- (e) the requiring body shall give preference to willing landless labourers and unemployed affected persons while engaging labour in the project during the construction phase.

7.13.2 The affected persons shall be offered the necessary training facilities for development of entrepreneurship, technical and professional skills for self employment.

7.14 In case of a project involving land acquisition on behalf of a requiring body, the affected families who have not been provided agricultural land or employment shall be entitled to. a rehabilitation grant equivalent to seven hundred fifty days minimum agricultural wages or such other higher amount as may be prescribed by the appropriate Government:

Provided that, if the requiring body is a company authorized to issue shares and debentures, such affected families shall be given the option of taking up to twenty per cent. of their rehabilitation grant amount in the form of shares or debentures of the requiring body, in such manner as may be prescribed:

Provided further that the appropriate Government may, at its discretion, raise this proportion up to fifty per cent. of the rehabilitation grant amount.

3. HARYANA GOVERNMENT REHABILITATION & RESETTLEMENT POLICY FOR LAND ACQUISITION OUSTEES

The Haryana Government has Published Rehabilitation And Resettlement Policy For Land Acquisition Oustees vide Haryana Govt. Gazette Notification No. 5451 - R - V- 2007 / 13258 dated 7-12-2007 published on 18-12-2007.

The main provisions in the Policy are as under:

ANNUITY

- i. The land owners will be paid annuity for 33 years over and above the usual land compensation. The amount of annuity will be Rs. 15,000/-per acre per annum.
- ii. Annuity of Rs. 15,000/- will be increased by a fixed sum of Rs.500/- every year.
- iii. In respect of land acquired in terms of land acquisition policy for setting up of Special Economic Zone/Technology Cities, Technology Parks, in addition to rehabilitation and resettlement package notified by Industries and Commerce Department vide No. 49/48/2006-4IBI, dated 4th May, 2006, a sum of Rs. 30,000/- per acre per annum will be paid for a period of 33 years by private developers and this annuity will be increased by Rs. 1,000/- every year.
- iv. The policy of paying annuity will be applicable to all cases of land acquisition by Govt. except land acquired for defence purposes.

4. FUNDING AGENCIES REQUIREMENTS - SOCIAL

Comprehensive Resettlement and Rehabilitation (R&R) guidelines are HVPNL's mandatory requirements in respect of Funding Agencies i.e. World Bank Operational Policy/procedures - 4.12 and Operational Directives - 4.20.

A) WORLD BANK OP 4.12: INVOLUNTARY RESETTLEMENT

Involuntary resettlement may cause severe long-term hardship,

impoverishment, and environmental damage unless appropriate measures are carefully planned and carried out. For these reasons, the overall objectives of the Banks policy on involuntary resettlement are the following:

- (a) Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- (b) Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- (c) Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

This OP describes World Bank's policies and procedures on involuntary resettlement as well as conditions that borrowers are expected to meet during operations involving resettlement of affected groups. It requires an entitlement framework aimed at restoration, replacement, and participation of affected groups. A detailed social assessment and development of an action plan having list of measures for betterment/ restoration of lost assets/ income is required to be submitted to bank before start of project work. However where only a few people (e.g. about 100-200 individuals) are to be relocated at a particular location, appropriate compensation for assets, logistical support for moving and a relocation grant may be the only requirements but the principle on which compensation is to be based will remain same as for larger groups.

B) WORLD BANK OP 4.10: INDIGENOUS PEOPLE (IP)

This policy contributes to the Banks mission of poverty reduction and sustainable development by ensuring that the development process fully respects the dignity, human rights, economies, and cultures of Indigenous Peoples. For all projects that are proposed for

Bank financing and affect Indigenous Peoples, the Bank requires the borrower to engage in a process of free, prior, and informed consultation. The Bank provides project financing only where free, prior, and informed consultation results in broad community support to the project by the affected Indigenous Peoples. Bank-financed projects include measures to (a) avoid potentially adverse effects on the Indigenous Peoples' communities; or (b) when avoidance is not feasible, minimize, mitigate, or compensate for such effects. Bank-financed projects are also designed to ensure that the Indigenous Peoples receive social and economic benefits that are culturally appropriate and gender and intergenerationally inclusive.

This OP describes World Bank's policies and procedures for projects that affect indigenous people. The objective is to ensure that development benefits are socially and culturally compatible and that the IPs are consulted. Thus, an Indigenous People Development Plan is to be prepared as a prerequisite. HVPNL will incorporate the IP component wherever necessary.

HVPNL emphasizes that transmission projects in Haryana require relatively small portion of land and does not involve major displacement. However, all affected persons/families shall be provided compensation and rehabilitation assistance along with other measures as per HVPNL's social entitlement framework which is based on these directives/manuals and national R&R Policy to restore income/ livelihood of all affected persons.

Chapter –IV

SOCIAL ENTITLEMENT FRAMEWORK

The prescriptive Social Entitlement Framework derives from the aforementioned directives of the constitution, national Resettlement & Rehabilitation Policy, State R&R Policy and other relevant policies. The framework guides the HVPNL in its activities of land acquisition, resettlement & rehabilitation of the affected and displaced. Table 4.1 presents the entitlements those will be provided to those adversely affected by the project.

Table 4.1: HVPNL’S SOCIAL ENTITLEMENT FRAMEWORK

Sr. No.	Type of Loss/ Impact	Entitled Person/s	Entitlement
1. Loss of Land			
a)	Homestead land with valid title, or customary or usufruct rights	Titleholders	i) Cash compensation as per LA Act 1894 ii) Actual registration charges for purchase of alternate land for maximum of compensation amount within one year as per proof of purchased land. iii) The land owners will be paid annuity for 33 years over and above the usual land compensation. The amount of annuity will be Rs. 15,000/-per acre per annum on prorata basis. Annuity of Rs. 15,000/- will be increased by a fixed sum of Rs.500/- every year as per State Government Policy.
	Vulnerable person	Titleholders	One time additional compensation of Rs.5000 per acre on prorata basis will be paid in addition to above entitlements.
b)	Agricultural Land		
(i)	With valid title	Titleholders	i) Cash compensation as per LA Act 1894 ii) Actual registration charges for

			<p>purchase of alternate land for maximum of compensation amount within one year as per proof of purchased land.</p> <p>The land owners will be paid annuity for 33 years over and above the usual land compensation. The amount of annuity will be Rs. 15,000/-per acre per annum on prorata basis. Annuity of Rs. 15,000/- will be increased by a fixed sum of Rs.500/- every year as per State Government Policy.</p>
	Vulnerable person	Titleholders	One time additional compensation of Rs.5000 per acre on prorata basis will be paid in addition to above entitlements.
(ii)	tenants, sharecroppers, leaseholder including the commercial and other establishments	Individual with proof of tenancy/share cropping/leasing	<p>Reimbursement for unexpired tenancy/share cropping/lease period.</p> <p>Note: This amount will be deducted from the compensation payable to land owners.</p>
	Vulnerable person	Individual with proof of tenancy/share cropping/leasing	One time additional compensation of Rs.5000 will be paid in addition to above entitlements.
(iii)	Encroacher/Squatters	Occupant	Assistance to be provided for inclusion in various Government Schemes.
2.	Loss of structure		
(i)	with valid title,	Structure owner	<p>i) Compensation as per Haryana PWD scheduled rates</p> <p>ii) One time financial assistance of Rs.10,000/- for shifting of family, building material, belongings and cattle etc.</p> <p>Affected Families will be allowed to dismantle structure and carry salvage whatever they can.</p>
	Vulnerable person	Structure owner	One time additional compensation of Rs.5000 will be paid in addition to above entitlements.

			above entitlements.
(ii)	Tenant, leaseholder (who have created the structure)	Individuals/ Party with proof of tenancy/leasing	<p>i.) Compensation as per Haryana PWD scheduled rates.</p> <p>ii) One time financial assistance of Rs.10,000/- for shifting of family, building material, belongings and cattles etc.</p> <p>iii) Affected Families will be allowed to dismantle structure and carry salvage whatever they can.</p> <p>iv) Reimbursement for unexpired tenancy/ lease period.</p> <p>Note: The amount at iv) will be deducted from the compensation payable to land owners.</p>
	Vulnerable person (who have created the structure)	Individuals/ Party with proof of tenancy/leasing	One time additional compensation of Rs.5000 will be paid in addition to above entitlements.
(iii)	Tenant, leaseholder (Who have not created the structure)	Individuals/ Party with proof of tenancy/leasing	<p>Reimbursement for unexpired tenancy/ lease period.</p> <p>Note: This amount will be deducted from the compensation payable to land owners.</p>
	Vulnerable person (Who have not created the structure)	Individuals/ Party with proof of tenancy/leasing	Additional compensation of Rs.2000 will be paid in addition to above entitlements.
(iv)	Squatters	Structure	<p>I. Compensation as per Haryana PWD scheduled rates.</p> <p>II. Assistance in shifting by providing transport charges to actual or Rs.10,000/- maximum.</p> <p>III. Affected Families will be allowed to dismantle structure and carry salvage whatever they can.</p>

(v)	Cattle shed	Owner/Family	Cash compensation of Rs. 15000/- for re-construction of cattle shed.
	Vulnerable person	Owner/Family	Additional compensation of Rs.1000 will be paid to head of family in addition to above entitlements.
(vi)	Workshop sheds	Owner/Family	Cash compensation of Rs. 25000/- for re-construction of workshop shed.
	Vulnerable person	Owner/Family	Additional compensation of Rs.2000 will be paid to head of family in addition to above entitlements.
3	Loss of livelihood		
i)	Wage /Self employment (both agriculture and Non Agriculture)	Each adult earning member (both men & women)	Assistance to be provided for inclusion in various State Government Schemes for self-employment.
4	Loss of standing crops/ trees		
i)	a) Crops b) Trees	Cultivator title holders	In either category compensation for the total loss of crop/tree as per LA Act during construction as well as during O&M**.
5	Loss of access to Common Property Resources (CPR) and facilities		
i)	Common property resources / Civic amenities.	Community	Replacement of CPRs/Civic amenities to ensure equivalent community resources and amenities or provisions of functional equivalence.
6	Losses to host communities		
i)	CPR and Civic amenities	Community	Augmentation of resources of host community to sustain pressure of AFs.
7	Panchayat land	Village Panchayat	Compensation as per State Government Policy.

8.	Other Impacts related to loss of assets/ livelihood not identified.	AFs	Unforeseen impacts should be documented and mitigative measures have to be proposed with in the overall principles & provisions of ESPP.
9.	Title holders affected by Transmission towers In urban/ rural areas	Title holders	Compensation as per “Works of licensees Rules 2006” notified by GoI on dated 18.4.2006.

Note: *Vulnerable person means the people below poverty level, widow, physically handicap and SC/ ST.

** compensation of damage to crop/ trees during O&M would be paid within one month

A) VARIOUS PROVISIONS OF ENTITLEMENTS

- In case of squatters, and encroachers to become eligible for the entitlements, he or she should have been residing continuously at least one year prior to the cut-off date supported by documentary evidence, like ration card, voters card or identity card, Electricity Payment Bill, etc.
- In case of provisions for covering the affected families under various government schemes, HVPNL will make every effort to cover them under various ongoing schemes depending upon their eligibility criteria prescribed by the government from time to time.
- In rural areas for agricultural land, if after acquisition, a land holder is left with one acre or less than one acre of land, his/her entire land will be acquired, if he/she desires. The land under acquisition should be used for agricultural purpose for at least one crop during the last two year.

B) Provisions in payment of compensation under LA Act

- For evaluation of land to be acquired under LA Act, a Committee has been formed in Haryana under the chairmanship of concerned Divisional Commissioner as Chairman, concerned Deputy Commissioner as Member Secretary, representatives of the concerned beneficiary department and

District Revenue Officer as Members. In addition to this, affected farmers can also be included in this Committee.

- Land Acquisition Collector is competent to make awards in excess of 15 per cent of the rate furnished by the said Committee or Rs.10 lacs whichever is less. He can still enhance more with the approval of State Government as per section 11(1) of the Land Acquisition Act 1894 to ensure compensation at market value for loss of agriculture lands.
- GoH has fixed minimum land rates of different lands in order to avoid under value transactions. These rates will become the basis for finalizing land rates.
- In case of damage of crops, compensation will be given as per Land Acquisition Act. The quantum of crops damaged will be assessed by collecting per acre yield figure of that crop in that area from Tehsildar (Revenue authorities) and the equivalent amount of damaged crops will be calculated by ascertaining rate/quintal from the office of the Secretary Market Committee of the concerned area. In case of damage to tree, its cost will be got evaluated from the office of the concerned Forest Officers of the area. It will depend upon the age and kind of tree involved.

C) DEFINITIONS

The following are used for the purpose of various definitions:

Project Affected Family : The definition of AF (Affected family) includes people who loose land, livelihoods, homesteads, structures, and access to resources, because of project activities.

Vulnerable Persons: Vulnerable persons are those who may be more vulnerable than the average and may suffer economically and socially as a result of their displacement. For the purpose of the project, the people below poverty level (as per GoH list), widow, physically handicap and SC/ ST are considered as vulnerable.

Squatters and Encroachers: are those who have occupied the government lands for shelter and livelihood. Further, the squatters are defined as those who have occupied land for

residential and commercial purposes. On the other hand the encroachers are those who have extended their lands or occupied for agricultural purposes.

D) BUDGET

The total cost of Environment and R&R (ER&R) including cost of compensation, relocation and rehabilitation, social assessment, planning, implementation, supervision monitoring and evaluation shall be included as the integral part of project cost to ensure so that provision for adequate funds is to take up the ER&R activity as per provisions of the policy.

E) CUT OFF DATES

For the non titleholders the cut off date will be the date of census survey conducted as part of socio economic survey and for titleholders it will be the date of issuance of Section 4 (1) notice under LA Act.

F) PUBLIC DISCLOSURE, CONSULTATION, AND PARTICIPATION

Public consultation will be an integral part of the process throughout the planning and execution of project. The Environment and Social Management Team (ESMT) will interact closely with PAPs, host communities, project personnel, government departments, NGOs right from the early stages of the project preparation on a regular basis for developing and implementing the RAP and EMP. Transmission projects in general do not create much social and environmental impacts and do not result in resistance from public, NGOs or other social organization on account of environmental issues. In spite of this HVPNL considers it necessary that public is made aware of the possible environmental impacts, howsoever minor these may be. For this purpose public contact drives shall be organized by the field units and public awareness shall also be created through NGO's and other social organizations active in the affected areas. During the public awareness drives it is to be ensured that only accurate information is given about the project and its possible environmental impacts. Public suggestions shall be given due weightage and good suggestion shall be incorporated in Environmental Management Plans & Resettlement Action Plan, selection of route of the transmission line and selection of site of substation.

The first step of the public awareness program is the publication of the Public

Notification in the local news papers as per the section 29 of Electricity (supply) Act 1948 in which details of the proposed project are given. Though this notification the objections are invited from the public. The objections are to be filed within a period of 60 days from the date of publication of notification. The next steps of the program is holding of the meetings and discussions with the public during the reconnaissance survey and again during the detailed survey/ tower spotting.

Before finalization of ESPP document, due consultation with public at large was done by issuance of the notice in the newspaper by making available the draft ESPP at circle headquarters and website of the corporation. The comments / suggestion offered by the public were given due weightage and incorporated in the ESPP.

Chapter –V

ENVIRONMENT AND SOCIAL MANAGEMENT PROCEDURES

HVPNL has developed comprehensive Environmental and Social (E&S) Management Procedures and incorporated them to its project cycle, to ensure that its operation eliminates or minimizes adverse environmental and social impacts. The E&S management procedures identifies the relevant issues at early stages of project cycle and follow the basic philosophy of sustainable development through Avoidance, Minimization and Mitigation.

HVPNL's project cycle forms the operational framework and background through which the environment and social issues are addressed. Key milestones in HVPNL's transmission projects include project conceptualization; planning; approval; design; tendering; implementation and operation; and maintenance.

PROJECT CONCEPTUALIZATION

During project conceptualization, HVPNL identifies the project. Identification of a power transmission project is on the basis of demand and supply in regions and links between new power generating projects and availability of state's quota of power from the Powergrid. HVPNL carries out feasibility studies encompassing demand for energy, prioritizing for different sectors and regions, environmental and social impact assessment; economic and financial analysis; and an implementation schedule. During feasibility studies, HVPNL identifies and weight various line options on a survey map such that there is shortest distance between origin of the proposed transmission line and the substations sites. At all times, while considering line options, HVPNL keeps in view its policy of avoidance of socially (including environmentally) sensitive areas.

PROJECT PLANNING

During project planning, HVPNL carries out a Reconnaissance survey. A number of alternatives are studied to minimize possible environmental impacts of transmission line. Adequate care is taken in the route alignment to avoid forests and areas of natural resources completely, if not possible, allow to traverses minimally. The planning exercise also ensures that the route does not involve human habitation and areas of cultural importance. Field officers verify critical issues e.g. river, hill, railway crossings; power and telephone lines etc.

and finalize the optimal route on the map. Once the route is finalized, HVPNL, will carry out a Environment & Social Assessment with its own field staff and prepare a Environment & Social Impact Assessment. Based on the assessment and the provisions under ESPP, HVPNL will formulate a EMP (Environment Management Plan & Resettlement Action Plan (RAP) in consultation with Affected Families.

PRINCIPLES IN FINALISATION OF TRANSMISSION ROUTES

To avoid or minimize the impacts while identifying the transmission system, a preliminary route selection will be done by HVPNL using tools such as FOREST ATLAS, village cadastral maps and Survey of India maps. After field verification finalization of route alignment will be done. The guiding principle behind this is avoidance of human displacement and involvement of bare minimum forest. Only when absolutely unavoidable, HVPNL consider minimum routing through forest and other lands (both private and public) on which the local population is dependent. HVPNL endeavors to avoid orchards, plantations, and forests in line routing through studies of alternative routes. HVPNL takes into consideration the following points while routing its transmission lines:

1. The route does not involve any human habitation
2. The route does not affect any monument of cultural or historical importance;
3. The proposed route does not threaten the survival of any community, especially tribal communities;
4. The proposed route does not affect any public utility services like playgrounds, school and other establishments, etc.
5. The line route does not pass through any sanctuaries, National park, or similar ecologically fragile areas, etc
6. The Nigam will use modern techniques / tools like GIS, GPS to optimize route alignment. After the finalization of route, HVPNL carries out an Environmental Assessment.

HVPNL considers various sites for substations. On the basis of data for various parameters considered during selection process, a comprehensive analysis for each alternative

site will be carried out. Weightage will be given to various parameters for finalizing alternative sites which are often site specific. Due consideration is given to availability of infrastructure facilities such as access roads, railheads etc. type of land viz. government, revenue, private, agriculture, environment and social impacts such as number of families affected as well as cost of compensation and rehabilitation.

After the approval of the transmission works, detailed surveys would be carried out by the field staff and accordingly the Environment Management Plan & Resettlement Action plan of sub projects would be prepared. Simultaneously the design and finalization of the specifications would be finalized. The relevant portions of the EMP would be made part of the bid document. Thereafter, the process of award of contract would be initiated and work would be executed under the supervision of respective field offices

OPERATION AND MAINTENANCE

HVPNL continuously monitors the transmission lines and substations. The lines are patrolled regularly to identify any defects in the components. Monitoring of the line is carried out by the respective HVPNL field offices.

PROJECT REVIEW

HVPNL's project staff review the lines and substations on a daily basis. Apart from this, monthly review meetings are conducted at the district level. The HVPNL headquarters monitor construction and technical, environmental and social components of the power transmission projects. The social components of the project are reviewed annually by the ESMU of HVPNL.

SOCIAL ISSUES IN TRANSMISSION INVESTMENT PROGRAM

Social issues associated with transmission projects mainly arise out of land acquisition for substation sites. For transmission towers land required varies between 30 to 100 square meters. HVPNL can exercise flexibility for locating substations with a view to minimize any adverse impacts. The amount of land for each substation will vary between 6 acres in case of 66 kV substations to 25 acres in case of 400 kV substations. As regards the transmission towers the amount of land required for each tower is to the extent of about 100 sq.mts only. The distance between two towers is about 300 meters. In case of transmission

lines persons currently occupying land or using other resources will continue to make use of land with certain restrictions under the transmission lines in term of distance and height of trees or crops to be grown. During land acquisition, if any holding becomes one acre or less and is unproductive/ unusable as per assessment of owner and is offered by owner, HVPNL will acquire the entire holding and compensate fully. Such land holders will also be covered, depending upon their eligibility under the proposed entitlement package.

PAYMENT OF DAMAGES DURING CONSTRUCTION AND OPERATION

HVPNL has demonstrated in the past its trustworthiness and capacity to build safe towers at railway, highway and other crossings. HVPNL plans to undertake its construction activities after the harvests of crop is unavoidable, HVPNL provides adequate compensation for losses. The assessment of compensation for crop loss will be paid as per the records of the village Patwari based on the average yields in the area and prevailing market price.

The ESPP of HVPNL intends to avoid any displacement as far as possible in all its transmission line projects. In other words, involuntary resettlement is minimal in HVPNL's transmission line projects. HVPNL even tries to minimize economic disturbance to those dependent on land required for substations. In case economic resettlement is inevitable, HVPNL will address the social issues arising due to land acquisition through its ESPP and the entitlement framework. In accordance with the policy HVPNL will ensure proper valuation of compensation for land and other assets. HVPNL will identify suitable opportunities for marginalization groups which will be spelt out in RAP encouraging consultation with the public, NGO's and local authorities on socio-economic issues that arise from its project activities in consultation with the local community..

HVPNL will also compensate land holders for any damages incurred during the process of operation and maintenance of the towers.

Consultation with the local community will be one of the methods of ensuring its involvement in HVPNL's project. The consultation process will start right from conceptualization of the project and continue through planning, design and implementation. This will also help in making the community realize the importance of the projects for the larger interest of the State.

SOCIO-ECONOMIC SURVEYS

The impacts of transmission projects will be assessed through the census and baseline socio economic surveys (BSES). The BSES will help in assessing the extent of the acquisition of land and other immovable assets, magnitude of displacement, losses to be sustained by AFs, needs of vulnerable groups, and finally provide the basis for preparing the Resettlement Action Plans (RAPs). The census survey in case of sub stations will be conducted immediately after preparation of the Feasibility Report (FR) followed by a baseline socio-economic survey to capture the detailed account of living standards. In case of transmission lines a full length socio-economic survey will not be undertaken, instead, name of the owner, current use and type of land and extent of damages to be suffered will be recorded during the period of implementation by the civil contractor.

RESETTLEMENT ACTION PLANS

Wherever required, a comprehensive Resettlement Action Plans will be drawn up in advance by the project authorities based on the results of baseline surveys and provisions available in ESPP. The RAP will be prepared after taking into confidence the AFs as well as host population. Special attention will be paid to the vulnerable sections of affected population. The key contents of RAP include:

- Findings of social impact assessment, baseline information of AFs,
- Efforts made in avoiding or minimizing the resettlement,
- Details of AFs by impact category and their corresponding entitlements,
- Budget estimates,
- Time-table with target dates for key milestones,
- Implementation arrangements,
- Description of AFs participation and monitoring and evaluation arrangements.

HVPNL'S E&S MANAGEMENT PROCESS IS SUMMARIZED BELOW.

1. Project conceptualization: During this stage, following activities are undertaken.

- a. Environmental screening and scoping for transmission lines & substations
 - b. Social screening and scoping for transmission lines & substations
 - c. Environmental approval from internal management
2. Project planning: Following activities are conducted in this stage
- a. Environment and social screening for substation
 - b. Environmental Assessment and Management Planning (EAMP)
 - c. Social assessment and management planning
3. Project approval
- Project approval including screening from an environmental & social perspective and EMP/ RAP would be approved by the internal management consisting of Whole Time Directors of HVPNL.
4. Detailed design and tendering: The environmental and social management procedures under taken during this phase are:
- a. Concurrence from funding agencies
 - b. Consultation for environmental management work
5. Operation and maintenance:
6. Annual review: Annual review would be done at the level of internal management (Whole time Directors of HVPNL)
7. Environmental and Social Risk Assessment: Environmental and social risk assessment is a vital part of HVPNL's environmental and social management strategies. The risk assessment process identifies existing risks, and forecast future potential risks in its power transmission projects. It is a scientific process that includes cost-benefit analysis. The environment and social management procedures developed by HVPNL evaluate these risks, both qualitatively and quantitatively, and prioritize them. Based on prioritization, environment and social management options are selected.

KEY ENVIRONMENTAL ISSUES OF TRANSMISSION LINE ARE DISCUSSED AS UNDER:**WALKOVER SURVEY**

The walk over survey is being carried out by concerned JE (Civil) of HVPNL. The tentative route is marked on the GT Survey sheet of the area. The care is taken to avoid habitat area, tree plantations and structures etc. The distance from the nearest Air Force Station, Airports, restricted areas is provided in the EMP. The details of the crossings viz. railway crossings, existing transmission lines, rivers and National Highways etc is also given.

ENVIRONMENTAL IMPACTS

i) Airport & Aviation Hazards :

The minimum distance required under Air Safety Regulations from any structure is 15 Kms with a maximum height of 30 Mtrs (noted by the local Air Force authorities at Chandigarh).

ii) Invasion of exotic species:

No exotic species exist along the ROW for the line.

iii) Migrating Birds:

The line does not fall in the zone of migratory birds. There is no Bird Sanctuary or Lake near by which can attract the migratory birds.

iv) EMF Effect:-

All electrical clearances is adhered to as per Indian Electricity Rules, which would avoid any adverse EMF effects.

v) Cultural/Aesthetic Resources:

There is no tourist, cultural or historical site near the proposed ROW.

vi) Runoff and Sedimentation :

Being flat terrain there is no chance of erosion of land through running water or other means.

vii) Access to Wild lands, Induced Secondary development:

The ROW does not alter any access to wild lands or induce secondary development.

viii) Access roads for towers :

All the tower locations are approachable through pucca roads connected with small katcha paths.

4. Safety Feature

Every structure bears danger plate denoting the “danger to life”. Every structure will be provided with barbed wire to avoid any attempt of climbing. Normal safety features such as continuous earth wire, unclimbable fencing and other relevant electrical protection schemes are being provided to safe guard against accidents. Distance protection schemes are being used to protect the H.T Lines against electrical faults.

4. Status of Clearances

In case any clearance for tree cutting in the ROW is required, the same is obtained.

Environment Management Plan (EMP) of each transmission work would be prepared separately irrespective of whether the transmission work is executed departmentally or on turnkey basis. **A sample format of EMP is enclosed as Annexure IV .**

At present, no separate O&M contractor is being engaged by HVPNL. However, in case contractors are engaged for O&M purpose, all norms would be adhered to by the contractor as per ESPP. 5% of the estimated cost of the transmission project would be taken as cost due to ESPP. **The process of approval is detailed as Annexure- X.**

Constraints / clearances required would be finalized before finalization of design each transmission work. These Constraints / clearances would be highlighted in the tenders to be floated.

Tree plantation would form part of project and as per convenience of the organization. A MoU would be signed with Forest department, Government of Haryana for plantation of

required number of trees in lieu of the trees required to be cut by HVPNL for execution of transmission projects.

Annual review of the EMP of each transmission system would be reviewed by the Environment & Social management group and thereafter by the internal management i.e Whole Time Directors of HVPNL.

The ESPP shall form specific training module for executive/ non executive so as to enable them to make provisions in the specifications & also to take necessary steps in right time. **In the beginning, training would be imparted to the executive/ non executive from NPTI/ PGCIL so as to enable them to understand the ESPP document, to take necessary steps in right time to implement. Thereafter, the training would be imparted at the HVPNL training institutes.**

Flow Chart for 66 KV & above Power Sub-Station and associated line

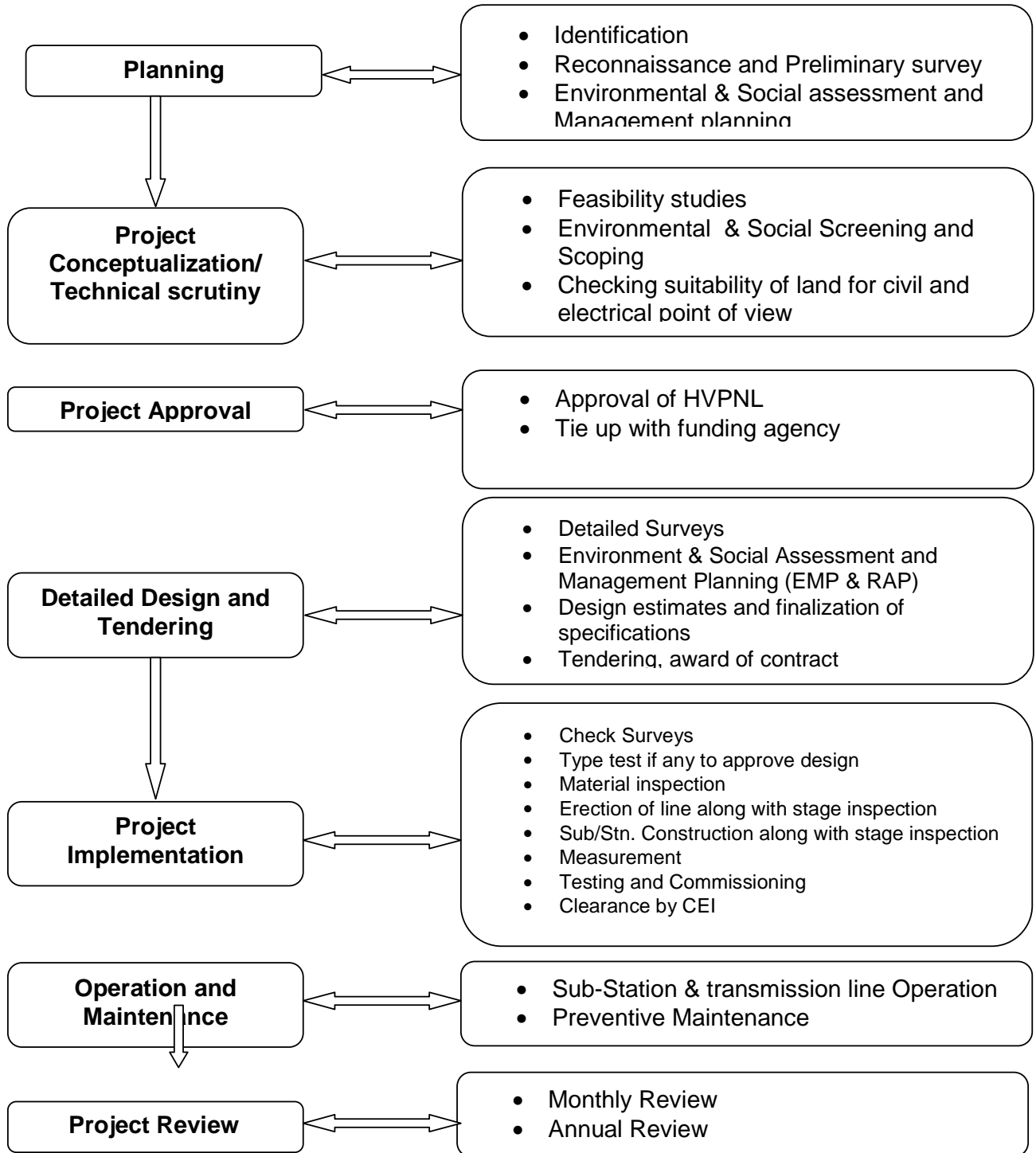
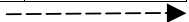


Table Project Cycle for 66 kV & above Power Sub-Station and associated line

Sr. No	Milestone	Period in Months					Onwards continued
		Two	Two	Two	Six	12-24 months	
1	Planning						
	a. Identification b. Reconnaissance and Preliminary survey c. Environmental & Social assessment and management planning	→					
2	Project Conceptualization/Technical scrutiny						
	a. Feasibility studies b. Environmental & Social Screening and Scoping c. Checking suitability of land for civil and electrical point of view.		→				
3	Project Approval						
	a. Approval of HVPNL b. Tie up with Funding Agency			→			


4	Detailed Design and Tendering						
	<ul style="list-style-type: none"> a. Detailed Surveys b. Environment & Social Assessment and Management Planning (EMP & RAP) c. Design estimates and finalization of specifications d. Tendering, award of contract 				→		
5	Project Implementation					→	
6	Operation and Maintenance						



	a. Sub-Station & transmission line Operation b. Preventive Maintenance						
7	Project Review						----->
	a. Monthly Review b. Annual Review						

HVPNL’s Risk Management process involves risk preparedness, risk mitigation and the sharing of liabilities (via internal arrangements and insurance). Responsibilities in the event of occurrence of a risk have been illustrated below:-

RISK	KEY ROLE-PLAYERS		
	HVPNL	CONTRACTOR	INSURERS
Non Compliance			
1. Regulatory 2. Contractual	☪	☪	
Major hazards, e.g. tower fall during construction	☪	☪	
During O&M	☪		
Impacts on health etc.	☪		
Force Majeure			
1. Insurable 2. Non-Insurable	☪ ☪	☪	☪
Inclusion/ Exclusion concerned communities/NGOs	☪		

Public interest mitigation			
Delayed implementation of ESMP			

Chapter –VI

INSTITUTIONAL FRAME WORK

HVPNL will have three levels of Institutional Bodies to oversee and implement ESPP. The bodies are constituted at Head Quarter level; Zonal level; and Divisonal Level (Fig 6.1).

At Head Quarter Level

Environment, Resettlement and Rehabilitation Committee (ER&R) under the chairmanship of Director Technical includes the concerned Chief Engineer/TS and CE/P&D HVPN, Panchkula and Deputy Secretary/Projects as Committee Members. Deputy Secretary/Projects will be the Member Secretary of the R&R Committee.

At Zonal Level

The Environment & Social Monitoring Committee (ESMC) constitute of concerned Chief Engineer/TS, concerned Superintendent Engineer/TS, concerned Executive Engineer/TS, Land Acquisition Officer and two representatives of AFs and ESMC would report to Director Technical, HVPNL, Panchkula.

At Divisonal Level

In addition to above, Environment & Social Implementation Unit (ESIU) will be there consisting of Executive Engineer/TS and SSE/SDO/ Construction of concerned place.

The role and functions of the ER&R, ESMC & ESIU include but are not limited to:

- Co-ordinate among various agencies involved in implementation of the ESPP programs;
- Monitor and review implementation of the ESPP Plans;
- Function as a grievance redressal body; and

- Provide overall guidance and leadership for smooth implementation of resettlement and rehabilitation plans.
- To review the ESPP Policy after every two years.

To ensure effective implementation of ESPP, HVPNL focuses on:

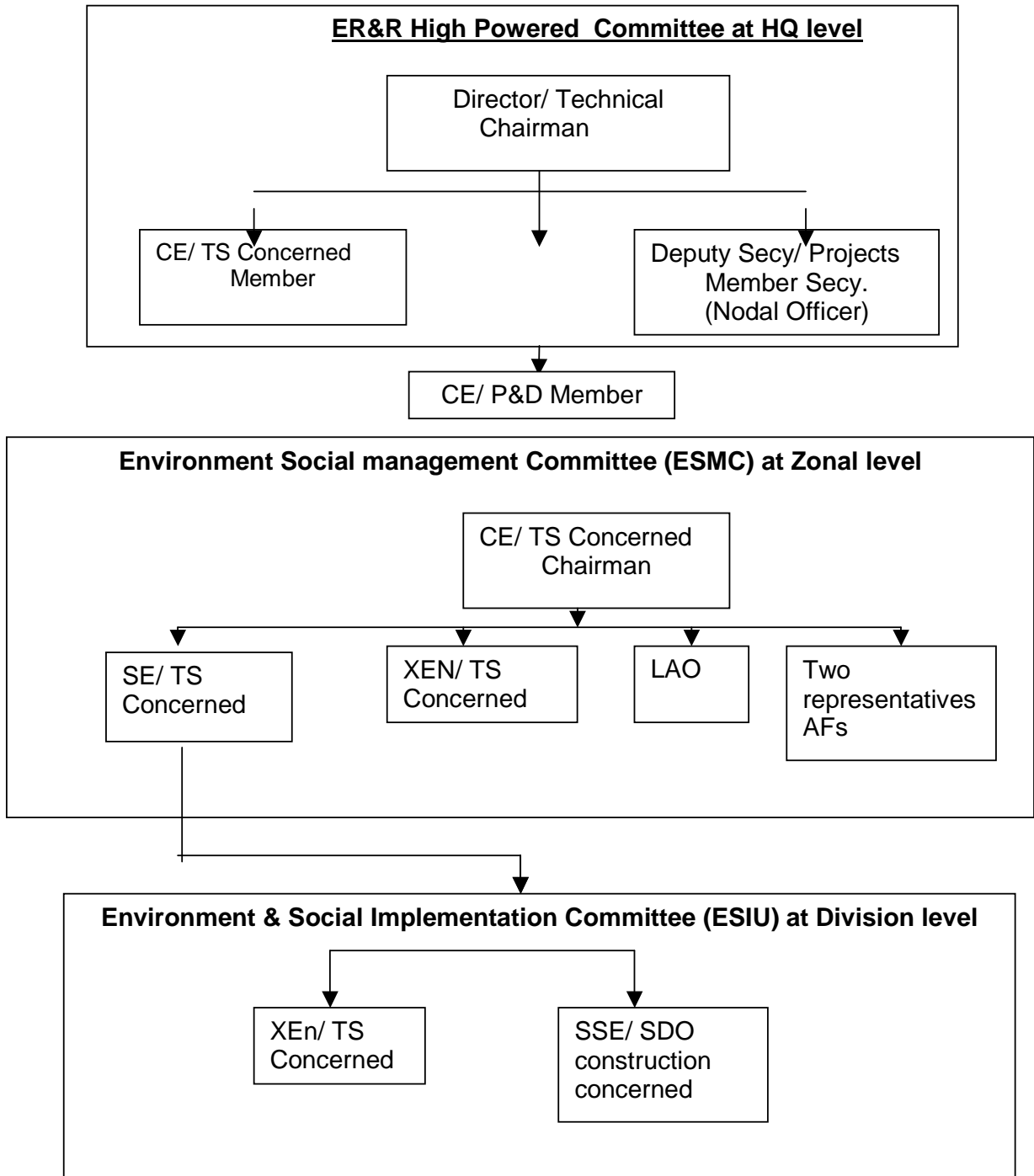
1. Strengthening the implementation of the ESPP by redeployment of appropriately trained personnel at key levels
2. Reinforcing in-house capabilities by working with specialized external agencies
3. Reviewing progress of the ESPP internally or through external agencies

CAPACITY BUILDING

Training and development of employees is integral to implementation of ESPP. In the beginning, training would be imparted to the executive/ non executive from NPTI/ PGCIL so as to enable them to understand the ESPP document, to take necessary steps in right time to implement. Thereafter, the training would be imparted at the HVPNL training institutes.

GRIEVANCE REDRESS MECHANISM

It is expected that through a participatory process and good compensation and support mechanisms, acceptance of the project will be enhanced and complaints reduced. In case of issues related to land acquisition, the LA Act provides adequate provisions at different stages of the LA process for the AFs to object to the proposed acquisition of land and other properties, compensation rates etc. The LA act also allows the affected person to receive the compensation under protest and then refer the case to the court for settlement. However, a E R&R Monitoring Committee at Zonal level will hear complaints and facilitate solutions. If the grievance is not redressed at zonal level, the affected person can appeal to the Environment R&R Committee at Corporate level. He/she can further appeal to the court if his/her grievance is not redressed at either zonal or corporate level.



LIST OF ABBREVIATIONS

Sr. No.	Abbreviation	Meaning
1.	ADB	Asian Development Bank
2.	BOD	Board of Directors
3.	CCEA	Cabinet Committee on Economic Affairs
4.	CEA	Central Electricity Authority
5.	DFO	Divisional Forest Officer
6.	EA	Environmental Assessment
7.	EAMP	Environmental Assessment and Management Plan
8.	EHV	Extra High Voltage
9.	EMP	Environmental Management Plan
10.	ESMC	Environmental and Social Management Committee
11.	ER&RC	Environmental Reh. & Resettlement Committee
12.	ESIU	Environmental and Social Implementation Unit
13.	ESPP	Environmental and Social Policy Procedures
14.	FA	Funding Agency
15.	FP	Forest Proposal
16.	FR	Feasibility Report
17.	IPDP	Indigenous People Development Plan
18.	ISO	International Standard Organization
19.	JBIC	Japan Bank for International Cooperation
20.	KV	Kilo Volts
21.	LAA	Land Acquisition Assessment

22.	MOEF	Ministry of Environment & Forests
23.	NO	Nodal Officer
24.	OD	Operational Directive
25.	OP	Operational Policy
26.	OM	Operation Manual
27.	OSS	Organizational Support Systems
28.	AF	Affected Family
29.	PAF	Project Affected Families
30.	PIB	Public Investment Board
31.	R&R	Resettlement and Rehabilitation
32.	RAP	Rehabilitation Action Plan
33.	REB	Regional Electricity Board
34.	RHQ	Regional Headquarters
35.	ROW	Right of Way
36.	SA	Social Assessment
37.	SAMP	Social Assessment and Management Plan
38.	SEB	State Electricity Board
39.	WB	World Bank
40.	WHO	World Health Organization

Annexure - I**THE ELECTRICITY (SUPPLY) ACT, 1948****Section 42 of Electricity Supply Act 1948**

42. Powers to Board for placing wires, poles, etc. 3*[(1)] Notwithstanding anything contained in sections 12 to 16 and 18 and 19 of the Indian Electricity Act, 1910 (9 of 1910), but without prejudice to the requirements of section 17 of that Act where provision in such behalf is made in a sanctioned scheme, the Board shall have, for the placing of any wires, poles, wall-brackets, stays, apparatus and appliances for the transmission and distribution of electricity, or for the transmission of telegraphic or telephonic communications necessary for the proper co-ordination of the works of the Board, all the powers which the telegraph authority possesses under Part III of the Indian Telegraph Act, 1885 (13 of 1885), with regard to a telegraph established or maintained by the Government or to be so established or maintained: Provided that where a sanctioned scheme does not make such provision as aforesaid, all the provisions of sections 12 to 19 of the first-mentioned Act shall apply to the works of the Board.

4*[(2)] A Generating Company may, for the placing of wires, poles, wall-brackets, stays, apparatus and appliances for the transmission of electricity, or for the transmission of telegraphic or telephonic communications necessary for the proper co-ordination of the works of the Generating Company, exercise all or any of the powers which the Board may exercise under sub-section (1) and subject to the conditions referred to therein.]

ELECTRICITY ACT 2003**67 Provision as to opening up of streets, railways etc.**

1. A licensee may, from time to time but subject always to the terms and conditions of his licence, within his area of supply or transmission or when permitted by the terms of his licence to lay down or place electric supply lines without the area of supply, without that area carry out works such as -
 - a. to open and break up the soil and pavement of any street, railway or tramway;

- b. to open and break up any sewer, drain or tunnel in or under any street, railway or tramway;
 - c. to alter the position of any line or works or pipes, other than a main sewer pipe;
 - d. to lay down and place electric lines, electrical plant and other works;
 - e. to repair, alter or remove the same;
 - f. to do all other acts necessary for transmission or supply of electricity.
2. The Appropriate Government may, by rules made by it in this behalf, specify-
- a. the cases and circumstances in which the consent in writing of the Appropriate Government, local authority, owner or occupier, as the case may be, shall be required for carrying out works;
 - b. the authority which may grant permission in the circumstances where the owner or occupier objects to the carrying out of works;
 - c. the nature and period of notice to be given by the licensee before carrying out works;
 - d. the procedure and manner of consideration of objections and suggestion received in accordance with the notice referred to in clause (c);
 - e. the determination and payment of compensation or rent to the persons affected by works under this section;
 - f. the repairs and works to be carried out when emergency exists;
 - g. the right of the owner or occupier to carry out certain works under this section and the payment of expenses therefor;
 - h. the procedure for carrying out other works near sewers, pipes or other electric lines or works;
 - i. the procedure for alteration of the position of pipes, electric lines, electrical plant, telegraph lines, sewer lines, tunnels, drains, etc.;

- j. the procedure for fencing, guarding, lighting and other safety measures relating to works on streets, railways, tramways, sewers, drains or tunnels and immediate reinstatement thereof;
 - k. the avoidance of public nuisance, environmental damage and unnecessary damage to the public and private property by such works;
 - l. the procedure for undertaking works which are not reparable by the Appropriate Government, licensee or local authority;
 - m. the manner of deposit of amount required for restoration of any railways, tramways, waterways, etc.;
 - n. the manner of restoration of property affected by such works and maintenance thereof;
 - o. the procedure for deposit of compensation payable by the licensee and furnishing of security; and
 - p. such other matters as are incidental or consequential to the construction and maintenance of works under this section.
3. A licensee shall, in exercise of any of the powers conferred by or under this section and the rules made there under, cause as little damage, detriment and inconvenience as may be, and shall make full compensation for any damage, detriment or inconvenience caused by him or by any one employed by him.
4. Where any difference or dispute [including amount of compensation under sub-section (3)] arises under this section, the matter shall be determined by the Appropriate Commission.
5. The Appropriate Commission, while determining any difference or dispute arising under this section in addition to any compensation under sub-section (3), may impose a penalty not exceeding the amount of compensation payable under that sub-section.

68. Provisions relating to overhead lines

1. An overhead line shall, with prior approval of the Appropriate Government, be installed or kept installed above ground in accordance with the provisions of sub-section (2).
2. The provisions contained in sub-section (1) shall not apply-
 - a. in relation to an electric line which has a nominal voltage not exceeding 11 kilovolts and is used or intended to be used for supplying to a single consumer;
 - b. in relation to so much of an electric line as is or will be within premises in the occupation or control of the person responsible for its installation; or
 - c. in such other cases as may be prescribed.
3. The Appropriate Government shall, while granting approval under sub-section (1), impose such conditions (including conditions as to the ownership and operation of the line) as appear to it to be necessary
4. The Appropriate Government may vary or revoke the approval at any time after the end of such period as may be stipulated in the approval granted by it.
5. Where any tree standing or lying near an overhead line or where any structure or other object which has been placed or has fallen near an overhead line subsequent to the placing of such line, interrupts or interferes with, or is likely to interrupt or interfere with, the conveyance or transmission of electricity or the 36 to interrupt or interfere with, the conveyance or transmission of electricity or the accessibility of any works, an Executive Magistrate or authority specified by the Appropriate Government may, on the application of the licensee, cause the tree, structure or object to be removed or otherwise dealt with as he or it thinks fit.
6. When disposing of an application under sub-section (5), an Executive Magistrate or authority specified under that sub-section shall, in the

case of any tree in existence before the placing of the overhead line, award to the person interested in the tree such compensation as he thinks reasonable, and such person may recover the same from the licensee.

Explanation. - For purposes of this section, the expression “ tree” shall be deemed to include any shrub, hedge, jungle growth or other plant.

164. EXERCISE OF POWERS OF TELEGRAPH AUTHORITY IN CERTAIN CASES.

The Appropriate Government may, by order in writing, for the placing of electric lines or electrical plant for the transmission of electricity or for the purpose of telephonic or telegraphic communications necessary for the proper co-ordination of works, confer upon any public officer, licensee or any other person engaged in the business of supplying electricity under this Act, subject to such conditions and restrictions, if any, as the Appropriate Government may think fit to impose and to the provisions of the Indian Telegraph Act, 1885, any of the powers which the telegraph authority possesses under that Act with respect to the placing of telegraph authority possesses under that Act with respect to the placing of telegraph lines and posts for the purposes of a telegraph established or maintained, by the Government or to be so established or maintained.

HARYANA REFORMS ACT 1997

57.(1) Notwithstanding anything contained in this Act – the powers rights and functions of Regional Electricity Authority, the Central Electricity Authority, the Central Government and authorities, other than the State Electricity Board and the State Government under the Indian Electricity Act, 1910 or the Electricity (Supply) Act, 1948 or rules framed thereunder shall remain unaffected and shall continue to be in force.

(2) Nothing contained in this Act will apply to the Power Grid Corporation, BBMB or other bodies or licensees in relation to the inter-state transmission of the electricity or generating companies owned or controlled by Central Government or undertaking owned by the Central Government

Annexure-II**FORMAT FOR FORMULATION OF FOREST PROPOSAL****FORM – ‘A’****PART – I****(To be filled by the user agency)**

1. Projects details:
 - i) Short narrative of the proposal and project/scheme for which the forest land is required
 - ii) Map showing the required forest land, boundary of adjoining forest on a 1:50,000 scale map
 - iii) Cost of the project
 - iv) Justification for locating the project in forest area
 - v) Cost benefit analysis (to be enclosed)
 - vi) Employment likely to be generated
2. Purpose-wise break-up of the total land required:
3. Details of displacement of people due to the project if any:
 - i) Number of families
 - ii) Number of Scheduled Castes/Scheduled Tribe families
 - iii) Rehabilitation plan (to be enclosed)
4. Whether clearance under Environment (Protection) Act, 1986 required?
(Yes/No)
5. Undertaking to bear the cost of raising and maintenance of compensatory afforestation and/or penal compensatory afforestation as well as cost for protection and regeneration of Safety Zone etc. as per the scheme prepared by the State Government (undertaking to be enclosed)

6. Details of certificates/documents enclosed as required under the instructions.

Signature

(Name in Block letters)

Designation

Address (of User Agency)

Date: _____

Place: _____

State serial No. of proposal _____

(To be filled up by the Nodal Officer with date of receipt)

PART – II**(To be filled by the concerned Deputy Conservator of Forests)**

State serial No. of proposal _____

Location of the project/Scheme: .. _____

7. Location of the project/ scheme:

- i) State/Union Territory
- ii) District
- iii) Forest Division
- iv) Area of forest land proposed for diversion (in ha.)
- v) Legal status of forest
- vi) Density of vegetation
- vii) Species-wise (scientific names) and diameter class-wise enumeration of trees (to be enclosed, in case of irrigation/ hydel projects enumeration at FRL, FRL-2 meter & FRL-4 meter also to be enclosed).
- viii) Brief note on vulnerability of the forest area to erosion
- ix) Approx. distance of proposed site for diversion from boundary of forest
- x) Whether forms part of National Park, wildlife sanctuary, biosphere reserve, tiger reserve, elephant corridor, etc. (if so the details of the area and comments of the Chief Wildlife Warden to be annexed).
- xi) Whether any rare/endangered/unique species of flora and fauna found in the area-if so details thereof
- xii) Whether any protected archaeological/heritage site/defence establishment

or any other important monument is located in the area. If so the details thereof with NOC from competent authority, if required

8. Whether the requirement of forest land as proposed by the user agency in col.2 of Part-I is unavoidable and barest minimum for the project. If no recommended area item-wise with details of alternatives examined.
9. Whether any work in violation of the Act has been carried out (Yes/No). If yes details of the same including period of work done, action taken on erring officials. Whether work in violation is still in progress
10. Details of compensatory afforestation scheme:
 - i) Details of non forest area/degraded forest area identified for compensatory afforestation, its distance from adjoining forest, number of patches, size of each patch
 - ii) Map showing non-forest/degraded forest area identified for compensatory afforestation and adjoining forest boundaries
 - iii) Detailed compensatory afforestation scheme including species to be planted, implementing agency, time schedule, cost structure, etc
 - iv) Total financial outlay for compensatory afforestation scheme
 - v) Certificates from competent authority regarding suitability of area identified for compensatory afforestation and from management point of view (To be signed by the concerned Deputy Conservator of Forests)
11. Site inspection report of the DCF (to be enclosed) especially highlighting facts asked in col.7 (xi, xii), 8 and 9 above.
12. Division/District profile:
 - i) Geographical area of the district
 - ii) Forest area of the district
 - iii) Total forest area diverted since 1980 with number of cases
 - iv) Total compensatory afforestation stipulated in the district/division since 1980

- on (a) forest land including penal compensatory afforestation
- v) Progress of compensatory afforestation as on (date)_____ on
- a) Forest land
- b) Non-forest land
13. Specific recommendations of the DCF for acceptance of otherwise of the proposal with reasons

Signature

Name_____ **Official Seal**

Date:_____ **Place:**_____

PART – III

(To be filled by the concerned Conservator of Forests)

14. Whether site, where the forest land involved is located has been inspected by concerned Conservator of Forests (Yes/No). If yes, the date of inspection & observations made in form of inspection note to be enclosed
15. Whether the concerned Conservator of Forests agree with the information given in Part-B and the recommendations of Deputy Conservator of Forests.
16. Specific recommendations of concerned Conservator of Forests for acceptance or otherwise of the proposal with detailed reasons.

Signature

Name

Date : _____

official Seal

Place: _____

PART – IV

(To be filled in by the Nodal Officer or Principal Chief Conservator of Forests or Head of Forest Department)

17. Detailed opinion and specific recommendations of the State Forest Department for acceptance of otherwise of the proposal with remarks (While giving opinion, the adverse comments made by concerned Conservator of Forests or Deputy Conservator of Forests should be categorically reviewed and critically commented upon).

Signature

Name

Designation

(Official Seal)

Date:

Place:

PART-V

(To be filled in by the Secretary in charge of Forest Department or by any other authorized officer of the State Government not below the rank of the Under Secretary)

18. Recommendation of the State Government (Adverse comments made by any officer or authority in Part-B or Part-C or Part-D above should be specifically commented upon)

Signature

Name

Designation

(Official Seal)

Date: _____

Place: _____

Annexure-III**SPECIFIED PROJECT CATEGORIES AS LISTED IN SCHEDULE -1 OF ENVIRONMENT IMPACT ASSESSMENT NOTIFICATION, 1994 (MOEF)**

Following project categories are required to obtain environmental clearance, prior to establishing an industrial unit.

NEW PROJECTS

For industrial units in the following project categories, if investment is > Rs. 50 crores:

1. Nuclear power plant & related projects, such as Heavy Water Plants, nuclear fuel complex, rare earths;
2. River valley projects including hydel power, major irrigation projects and a combination, including flood control;
3. Ports, harbours, airports (except minor ports and harbours);
4. Petroleum refineries including crude and product pipelines;
5. Chemical fertilizers (Nitrogenous and Phosphatic other than single Superphosphate);
6. Petrochemical complexes (both Olefinic and Aromatic) and Petrochemical intermediates such as DMT. Caprolactam, LAB etc. and production of basic plastic such as LDPE, HDPE, PP, PVC.
7. Exploration for oil and gas and their production, transportation and storage;
8. Synthetic Rubber
9. Hydrocyanic acid and its derivatives;
10. Primary metallurgical industries (such as production of Iron and Steel, Aluminium, Copper, Zinc, Lead and Ferro Alloys);
11. Electric Arc Furnaces (Mini Steel Plants);
12. Chloro alkali industry;

13. Viscose staple fibre and filament yarn;
14. Storage batteries integrated with manufacture of oxides of lead, lead antimony alloy;
15. Thermal power plants;
16. Pulp, paper and newsprint;
17. Cement

For industrial units in the following project categories, irrespective of the investment;

1. Pesticides (Technical);
2. Bulk drugs and pharmaceuticals;
3. Asbestos and asbestos products;
4. All tourism projects between 200-500 meters of a High Tide Line & at locations with an elevation > 1,000 meters with investments > Rs.5 crores;
5. Mining projects (with leases of more than 5 hectares);
6. Highway projects;
7. Err roads in the Himalayas and/or forest area
8. Distilleries
9. Raw skins and hides;
10. Dyes;
11. Foundries (individual);
12. Electroplating.

PROJECTS REQUIRING SITE CLEARANCE FROM MOEF:

Site clearance from the MoEF is to be obtained in case of the following projects:

1. Mining
2. Pit-Head thermal power stations;

3. Hydropower, major irrigation projects and/or their combination including flood control;
4. Ports and harbours (excluding minor ports);
5. Prospecting and exploration of major minerals in areas more than 500 hectares.
6. Industrial Estate

For obtaining site clearance, application is to be submitted giving the location of the project along with requisite details, to the MoEF. MoEF will convey its decision about the suitability of the proposed site within a maximum period of 30 days

Annexure – V**SPECIFICATIONS OF USED OIL FOR REFINING AND WASTE OIL FOR RECYCLING****Schedule-5****SPECIFICATIONS FOR USED OIL SUITABLE FOR RE-REFINING**

Sr No.	Parameter	Max Permissible Limit
1.	Colour	8 hazen units
2.	Water	15%
3.	Density	0.85 to 0.95
4.	Kinematic Viscosity cSt at 100°C	1.0 to 32
5.	Dilutents	15% vol
6.	Neutralisation No.	3.5 mg KOH/g
7.	Saponification value	18 mg KOH/g
8.	Total halogens	4000 ppm
9.	Polychlorinated biphenyls (PCBs)	Below detection limit
10.	Lead	100 ppm
11.	Arsenic	5 ppm
12.	Cadmium+Chromium+Nickle	500 ppm
13.	Polyaromatic hydrocarbons (PAH)	6%

Schedule-6**SPECIFICATIONS FOR WASTE OIL SUITABLE FOR RECYCLING**

Sr No.	Parameter	Max Permissible Limit
1.	Sediment	5% (maximum)
2.	Heavy Metals (cadmium+chromium+nickel+lead+arsenic)	605 ppm maximum
3.	Polycyclic aromatic hydrocarbons (PAH)	6% maximum
4.	Total halogens	4000 ppm maximum
5.	Polychlorinated biphenyls (PCBs)	Below Detection Limit

Annexure - VI**FORM – 13 FOR DISPOSAL OF REFUSED OIL**

**MINISTRY OF ENVIRONMENT AND FORESTS NOTIFICATION, NEW
DELHI, THE 20th May, 2003**

Form - 13

[See rule 20 (5)]

**Form for Filling Returns of Auction/ Sale of Non-Ferrous Metal Wastes/ Used
Oil/Waste Oil**

**[To be submitted by waste generators / auctioneers to the concerned State Pollution
Control Board / Committee by 31st January of every year]**

1.	Name and address of the waste generator/auctioneer	
2.	Total quantity of wastes auctioned / sold during the period	<p>Non-ferrous Metal Wastes [indicate type and quantity in metric tonnes along with the name(s)/address(s) of registered recycler(s)]:</p> <p>Used oil/waste oil [indicate type and quantity in metric tonnes along with the name(s)/address(s) of registered recycler(s) /re-refiner(s)]</p>

Cut off whichever is not applicable

Place :

Date :

Designation:.....

Signature:

Annexure-VII

No.11-8/83-FRY
Government of India
Ministry of Agriculture
(Department of Agri. & Co-operation)

New Delhi, the 10th April'84.

To

The Forest Secretaries,
Of All States/Union Territories.

Subject: Simplification of procedure under the Forest (Conservation) Act, 1980.

Sir,

It has been alleged that the execution of various development schemes and projects in the States/UTS is suffering because of the delays in the clearance of cases under the Forest (Conservation) Act, 1980. A working Group was constituted by this Ministry to go into the matter and it has been found that the delays in the processing of cases actually occur at the State Level because of the following main reasons:

- i) The proposals submitted are incomplete.
- ii) Lack of coordination between the development agencies/department and the Forest Department.
- iii) Lack of monitoring of the progress of cases at various levels in the Forest Department.
- iv) Non-existence of separate cells or of Nodal Officers to handle such cases at the State Level (2 months) and for furnishing of clarifications raised by the Central Government (Within 3 weeks)
- v) Non-observance of time limits prescribed for processing of cases at the State Level.

- vi) The Development Department do not take advance action and send the proposals for forest lands required by them only at the last moment (i.e. well after the projects are finally sanctioned and work is in hand).
2. It is also felt that sometimes the delay in the disposal of cases is because of the inaction and / or indifference at the field level. As a result of all this, the Forest (Conservation) Act is coming under criticism unnecessarily.
3. The working Group has found that the existing procedure laid down by the Central Govt. for the submission of proposals under the aforesaid Act is neither difficult nor time consuming, It is necessary that the guidelines already issued vide letter no. 8-6/80-FRY (Coord) dated 3rd September, 1983 and the procedure laid down therein may kindly be brought to the notice of the all concerned and it should be made clear that the department/agency/requiring the use of forest land should furnish complete information in column 1,2,3,5 & 6 of the proforma prescribed under the Forest (Conservation) Rules (on the basis of guidelines issued already) and submit the Performa alongwith a brief note covering essential details of the proposed scheme/project(in 4 copies) to the Nodal Officer appointed by the State Government. The Nodal Officer should then carry out preliminary scrutiny of the proposal and if found incomplete or inadequate should return it forthwith to the concerned department/agency with his comments. Otherwise, he should refer the proposal to the concerned DFO for providing information in the remaining columns of the proforma; This work should be done within a week's time. The DFO should collect the information and fill in the details in columns 4 and 7(i),(ii),(iii) of the proforma and return 3 copies of the same to the Nodal Officer within the period of one month. The Nodal Officer should then scrutinize the information & complete the rest of the formalities, as well as obtain the opinion of the CCF, and forward two copies (dully completed) to the State Govt. within 2 weeks. Before giving his opinion CCF should obtain comments of Chief Wild Life Warden against columns 4 (v), (vi),(vii) of the proforma and enclose the same with the proposal.

4. The State Government should scrutinize the proposal and forward one copy to the Central Government with its recommendations within a maximum period of 2 weeks. The whole procedure should not take more than two months at the State Govt. level after the stage of preliminary scrutiny by the Nodal Officer.
5. The cases relating to seismic surveys and explorations for oil drilling as well as prospecting licenses for mining need not be referred to Central Govt. for prior approval provided these do not involve cutting of the trees or clearance of forests. However, it should be made clear in each case that the permission to survey, explore or prospect does not imply any commitment on the part of the Central Govt. for any subsequent use of the forest land.
6. Cases relating to exploratory drilling for prospecting oil may be dealt with in accordance with the simplified procedure laid down vide this ministry's letter No. 8-22/81-FRY(Coord) dated 16.9.82, provided the forest land required for the purpose is not more than one hectare.
7. Cases involving small forest area upto 2 hectare in extent, which are covered of tree cover or which have scanty tree growth may also be dealt with as per simplified procedure given in letter No. 8-22/81-FRY(Coord) dated 16.9.82. However, the proposal in each case should include correct information about the type and density of vegetation..
8. In the case of transmission lines, the guidelines set out in Attachment-A should be followed.
9. It is essential that the process for any collection of data and processing of cases at various levels in the State should be streamlined to ensure expenditure disposal of the cases.

10. The project authorities/development departments must take advance action at the stage of project formulation, which should involve consultation with the officers of the Forest Departments. In any case, a formal request for any forest land must be made at least six months in advance of its actual requirement.
11. The State Governments which have not established separate cells or appointed nodal officers in the Forest Departments exclusively to handle the work arising under the Forest (Conservation) Act, must do so without any delay, Further, the nodal officer should be provided with adequate supporting staff, technical and ministerial, so that he is able to discharge his responsibilities promptly and effectively within the time frame suggested above. The nodal officer should be freely accessible to the officers of other departments/agencies and he should hold regular meetings at least once in 3 months with the heads of development departments, like Irrigation, PWD, Mining, Electricity, etc., to review the progress of pendency of cases at different levels and to remove bottlenecks.
12. The CCF and Conservators should be made responsible for constant monitoring and ensuring disposal of pending proposals. At the State Level, the Forest Secretary must obtain from the Nodal Officer a monthly statement of proposals submitted and disposal of pending cases with reasons thereafter) and scrutinize it carefully as well as issue necessary instructions and guidance from time to time. A monthly statement of such cases should be sent to the Central Govt. by the 15th of the following month in the Performa as at Annexure II. The first such monthly statement should be sent for the month ending the 31st March, 1984 and should reach this Ministry latest by 20th April, 1984.
13. You are requested to take action on the above lines urgently and to issue necessary instructions to all concerned so as to ensure that the proposals under the Forest (Conservation) Act are processed with utmost expedition at the State Level.

Yours faithfully,
(Samar Singh)

JOINT SECRETARY OF THE GOVT. OF INDIA.

ATTACHMENT-A

Guidelines for laying Transmission Lines through forest areas-Forest (Conservation) Act,1960.

1. While determining the alignment of transmission lines, forest area should be avoided as far as possible in conformity with the following observation of the Prime Minister.

Where laying of transmission lines involves cutting of trees, we should find feasible alternatives.

2. Where routing of transmission lines through the forest area cannot be avoided, these should be aligned in such a way that it involves the least amount of tree cutting.
3. As far as possible, the route alignment through forest areas should not have any line deviation.
4. i) The maximum width of right of way for the transmission lines on forest land shall be as follows:

Transmission Voltage	Width of right-of way
KV	(M)
11	7
33	15
66	18
110	22
132	27
220	35
400	52

- ii) Below each conductor, width clearance of 3 mtrs. would permitted for taking the tension stringing equipment. The trees on such strips would have to be felled but after the stringing work is completed dwarf trees would be planted keeping in view the electrical clearance to be maintained except in one outer-s strip which shall be left clear to parent maintenance of the transmission line.
- iii) For any repair and maintenance work of the transmission line, the Power Authorities may be allowed to fell minimum number of trees for repairs below other conductors, where dwarf trees have been planted in consultation with the local forest officer.
- iv) In the remaining width within the right of way (upto a maximum of 52 mtrs, for 400 KV lines) trees will not be felled but to prevent Electrical hazards they be lopped, to the extent required, to maintain the following minimum clearance from the conductor:

Transmission Voltage In (KV) KV	Minimum clearance Between conductors and tops of trees planted (M)
11	2.6
33	2.8
66	3.4
110	5.7
132	4.0
220	4.6
400	5.5

- (v) In the case of transmission lines to be constructed in hilly areas, where adequate clearance is already available trees will not be cut.

 - 5. The Forest Department shall plant dwarf trees upto ten times the number of trees removed from the right of way at the cost of State Electricity Board, Electricity Department etc.

 - 6. Where the forest growth consists of Coconut of similar tall tree width of right-of-way greater than these indicated at Sr. No. 4 they be permitted in consultation with the CEA.
-

Annexure VIII**FOR MAINTENANCE STAFF**Do's

1. Check all the Bays to any loose joint or hot spot.
2. Check Oil level of Transformers CTs & PTs.
3. Check all the Bays/ Equipment for their cleanliness.
4. Check all the equipment for any oil leakage.
5. Always carry out maintenance as per schedule.
6. Keep all the T&P in working condition.
7. Always pour acid into the water.
8. Always provide temporary earths on both sides of equipment under PTW.
9. Always use safety Precautions during work.
10. Keep all the Fire Fighting Equipment in proper working condition.
11. Follow safety rules & instructions.
12. Before getting the PTW cancelled it has to be ensured that all temporary earths are removed.
13. Always use sand/ soil, CO₂ gas or Dry powder chemical to extinguisher fire in Electrical Equipments.

FOR MAINTENANCE STAFFDon'ts

1. Don't allow growth of grass in near equipment bays.
2. Don't allow the workers to smoke near the equipment or work place.
3. Don't work on any equipment without proper P.T.W.
4. Don't allow work on high gantries/ structures without safety belt etc.
5. Don't loose concentration while working.
6. Don't wear loose/ synthetic clothes on duty.
7. Don't panic in case of fire.
8. Don't allow outsiders in the switch yard.

9. Don't forget to close tightly all the doors of MK's after work.
10. Don't keep loose flammable material near equipments/ bays.

FOR OPERATION STAFF

Do's

1. Check the healthy trip.
2. Check D.C. supply of panels.
3. Check healthiness of emergency D.C. Light system.
4. Always carry out operation with cool mind.
5. Check for any D.C. Leakage.
6. Check all the control panels for door sealing and cleanliness.
7. Check floats voltage and condition of battery.
8. Drain moisture from compressor and SF₆ breaker air tank.
9. Check availability of sufficient quantity of fire fighting equipment.
10. Check DG Set for healthiness if installed.
11. Follow safety rules and instructions during operation.
12. Always follow proper operation sequence.
13. After tripping of equipment, record all the FACIA/ RELA indications properly.
14. Reset all the relays while receiving the system after tripping.
15. Always ensure to have a certificate at the time of cancellation of PTW that all men, material, T&P and temporary earths have been removed form the site of work under PTW physically checks before cancellation of PTW all temporary earths are removed.
16. Check that no PTW is pending before energizing any equipment.
17. Check hot spots during night after switching off the yard light.
18. Check that the communication system is in working condition.
19. Display the important telephone numbers in the control room.

FOR OPERATION STAFFDon'ts

1. Don't ignore any alarm/ induction.
2. Don't forget to put caution/ PTW plates on controlling panel of the equipment/ feeder under shut down.
3. Don't carry out any operation in haste.
4. Don't operate the isolators without opening the controlling breakers.
5. Don't allow the outsiders without permission.
6. Don't allow the work on equipment without proper PTW.
7. Don't allow under/ over charging of DC Battery.
8. Don't loose concentration while working.
9. Don't smoke inside the control room.
10. Don't be panic in case of Fire.
11. Don't come on duty after taking liquor.
12. Don't come energize the equipment without proper investigation/ testing, in case of tripping on operation of Buchholz/ differential/ restricted earth fault & bus bar protection relays.
13. Don't wear loose clothes while working.

Annexure-IX

**FORM –8 FOR DISPOSAL OF BATTERIES
MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION**

New Delhi, the 16th May, 2001

FORM – VIII
[see rule 10 (2)(ii)]

FORM FOR FILING RETURNS BY RECYCLERS OF USED BATTERIES

[To be submitted by the bulk consumer to the State Board by 30th June (for the period October-March)
and 31st December (for the period April-September) every year]

1	Name and address of the bulk consumer	
2	Name of the Authorised person and full address with telephone and fax number	
3	Number of new batteries of different categories purchased from the manufacturer/ importer/ dealer or any other agency during October-March and April-September Category : Automotives four wheeler two wheeler Industrial UPS Motive Power Stand-by Others	(i) No. of Batteries (ii) Approximate weight (in Metric Tonnes)
4	Number of used batteries of categories mentioned in Sl. No. 3 and Tonnage of scrap sent to manufacturer/ dealer/ importer/ registered recycler/ or any other agency to whom the used batteries scrap was sent	

Signature of the authorised person

Place _____

Date _____

Annexure X

Table: Responsibility Allocation framework for the E&S Assessment & Management Process

Milestone	Process	Output/ Indicators	Responsibility			
			Internal			External
			Preparation/ Execution	Review	Approval after review	Preparation
I. Project Conceptualization						
1. Environmental & Social Screening and Scoping for transmission lines.	Screen and scope Transmission lines from an environmental & social perspective	E&S screening and scoping documents as part of FR	ESIC ESMU	ER&R	Internal Management Approval	Initial Environment Assessment Report
2.Environmental & Social approval	Submit FR (with E&S Screening & scoping details) to Internal Management Approval Submit FR (with E&S Screening & scoping details) with Internal Management Approval for pre-appraisal by FA	Internal Mgt. Approval Concurrence of funding agencies	ESIC ESMU	ER&R	Internal Management Approval Internal Management Approval	Pre-appraisal by FA
II. Project Planning						
1.Environmental & Social Screening and Scoping for Sub-stations	Screen and scope Sub-stations sites from an environmental & social perspective Public consultation	E & S Screening and Scoping reports for Sub-station sties	ESIC ESMU	ER&R	Internal Management Approval	Ext. Agency like revenue, forest dept etc. for social Screening & Scoping
2.Environmental Assessment & Management planning	To prepare an environmental & social management plan - Transmission	Environmental assessment management plan	ESIC ESMU	ER&R	Internal Management Approval	State Forest Dept

	Lines - Sub-Stations - Public Consultation					
3 .Forest Clearance	Submit Forest Proposal to state Government Forest Proposal to MoEF for conditional approval Forward FP to MoEF for Final Forest Clearance	Final Forest Clearance by MoEF	ESIC ESMU	ER&R	Internal Management Approval	RMoEF / MoEF
III Project Approval						
FA Acceptance	Submit FR (with environmental assessment management plan and social screening and scoping details) to Funding Agencies	EAMP and social screening & scoping (concurred as part of feasibility report) by FA	ESMU	ER&R	Internal Management Approval	Detailed appraisal and concurrence
IV Detailed Design & Award						
1.Social Assessment & Management Planning	To prepare a social assessment and management plan for -Transmission Lines -Substations -Public Disclosure	Social assessment and Management Plan	ESMU	ER&R	BOD	

2.Concurrence of FA for ASMP	Submit SAMP (with BOD approval to FA for concurrence.	Concurrence of FA for SAMP	ESMU CE/ Plg & Design	ER&R		
V. Project Implementation						
1.Execution of Environmental Management works	Execute environmental management works	Environmental management measures executed	ESIC ESMU	ER&R	Internal Management Approval.	
2.Execution of Social Management works	Execute social management works -Transmission lines - Substations	Social management measures executed	ESIC ESMU	ER&R	Internal Management Approval.	Ex. Agency (if required) for SAMP implementation
VI. Operation & Maintenance						
Environmental & Social Monitoring	Monitor environmental assessment management plan measures. Monitor social assessment & management plan measures.	Periodic monitoring report. Periodic monitoring report	ESIC ESMU	ER&R	Internal Management Approval. Internal Management Approval.	
VII. Project Review						
Annual Environmental & Social Review	Review and report on environmental and social performance of project during construction operation and maintenance.	Annual environmental and social review report	ER&R		Internal Management Approval.	

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