NATIONAL POWER TRAINING INSTITUTE

AN ISO 9001:2000 & 14001 ORGANIZATION

(MINISTRY OF POWER, GOVT. OF INDIA)

Strategic Plan

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Strategic Plan of NPTI

1.0 About National Power Training Institute

National Power Training Institute (NPTI), an ISO 9001 & ISO 14001 organization under the Ministry of Power, Govt. of India is a National Apex body for Training and Human Resources Development in Power Sector with its Corporate Office at Faridabad. NPTI had been providing its dedicated service for more than four decades.

Vision

NPTI cherishes a vision of value orientation and value addition to national and transnational power and energy sectors through Training and Human Resources Development, endeavoring to energize people who energize the nations.

Mission

Emerge as global leaders in enhancing human and organizational excellence in Power and Energy sectors by blending frontier technologies with Management to facilitate HRD interventions that are instrumental in providing reliable, safe, economic and clean power.

Value

We value our drive and commitment to provide cutting edge technologies and top quality service to our clients, sharing our knowledge and caring for their needs

Attitude

We constantly strive to motivate every power professional to tap his unique human endowments, consciousness, imagination and willpower. Together we make a difference.

NPTI has trained over 1,80,000 Power Professionals in regular Programs over the last 4 decades. NPTI is the world's leading integrated power training institute. NPTI is the only institute of its kind in the world with such a wide geographical spread and covering such vide gamut of academic and training programs in Power Sector. NPTI's committed faculty is providing excellent training in the Power Sector, which is the most important sector among various infrastructure sectors. Training provided by NPTI on Generator Simulators has improved Plant Load Factor of generating Units, has increased the availability of Transmission & Distribution System and has decreased Aggregate Technical & Commercial Losses. This in turn is providing more power to the country. Thus the training being provided by NPTI is having a cascading effect in the growth of GDP and economy of the country.

NPTI operates on an all India basis with manpower strength of 379 including 107 officers through its nine Institutes in different zones of the country as per details below:-

A. Northern Region

1. NPTI Corporate Office, Faridabad
2. NPTI (Northern Region), Badarpur, New Delhi
3. NPTI (Hydro Power Training Centre), Nangal

B. Southern Region

4. NPTI (Power System Training Institute), Bangalore
5. NPTI (Hot Line Training Centre), Bangalore
6. NPTI (Southern Region), Neyveli

C. Eastern & North Eastern Region

7. NPTI (Eastern Region), Durgapur
8. NPTI (North Eastern Region), Guwahati

D. Western Region

9. NPTI (Western Region), Nagpur

Manpower Training and Academic Programs

NPTI conducts following industry interfaced academic programs with the objective to create a pool of committed and competent professionals equipped with appropriate technical skills to steer the Indian Power Sector:-

- Two-Year MBA in Power Management approved by AICTE
- Four-Year B.Tech./B.E Degree in Power Engineering approved by AICTE
- One-Year Post Graduate Diploma Course in Thermal Power Plant Engineering
- One-Year Post Diploma Course in Thermal Power Plant Engineering
- One-Year Post Graduate Diploma in GIS and Remote Sensing (RS)
- Nine Months Post Graduate Diploma Course in Hydro Power Plant Engg.
- Six Months O&M of Transmission and Distribution System for Engineers

In addition to above, several long-term, medium term and short-term training programs in the areas of Thermal, Hydro, Transmission & Distribution and Management, Regulatory affairs etc. are being conducted in the various Institutes of NPTI. Customized training programs for various Power Utilities are also organized round the year. NPTI also conducts various training programs to ensure availability of properly trained personnel to man the Indian Electricity Industry.

NPTI has also been catering to the Training Needs of Process Industries such as Steel, Cement, Aluminum, Fertilizers, Refineries and includes various organizations such as BBMB, BHEL, CEA, DPL, DVC, ECIL, FACT, GAIL, IFFCO, IOCL, IREDA, KRIBHCO, NALCO, NEEPCO, NFL, NHPC, NLC, NPC, NTPC, Power Grid, SAIL, THDC, APGENCO, CESC, HPGCL, KPCL, MPEB, OHPC, OPGCL, RRUVNL, UPRVUN, ACC, AECO, BSES, HINDALCO etc.

Power Training Simulators

The Institutes of NPTI are well equipped with Hi-Tech infrastructural facilities for conducting different courses on technical as well as management subjects covering the needs of Thermal, Hydro, Transmission & Distribution Systems, and Energy related fields of the Indian Power and allied Energy sectors. It has a 500 MW Thermal Power Training Simulator at Faridabad Institute and a 210 MW Thermal Power Training Simulator at Nagpur Institute for imparting specialized skills to operation personnel across the country. Also a 430 MW (2x143 MW Gas Turbine and 1 x 144 MW Steam Turbine) Full Scope Combined Cycle Gas Turbine Replica Simulator has been commissioned at NPTI Corporate Office, Faridabad. A High fidelity Load Dispatch Operator Simulator for the National Grid has been commissioned for training at PSTI, Bangalore. A Hydro Simulator has also been commissioned at its Nangal Institute.

International Training

Professionals from various countries like Oman, Bangladesh, Cambodia, Bhutan, Ethiopia, Iraq, Kenya, Malaysia, Mexico, Myanmar, Nepal, Nigeria, Afghanistan, Philippines, Sudan, Syria, Zambia, Zimbabwe etc. have also undergone training at NPTI's various training Institutes.

Programs under USAID for Afghanistan:

NPTI conducted several training programs for Afghanistan Nationals under USAID's Human and Institutional Capacity Building for Afghanistan Energy and Natural Resources Sector:

- 26 weeks Post Graduate Diploma in Operation & Maintenance of Transmission & Distribution Systems at NPT-PSTI, Bangalore
- 40 weeks Post Graduate Diploma in Operation and Maintenance of Hydro Power Generation at NPTI-HPTC, Nangal, Punjab
- 40 weeks Post Graduate Diploma in Power Systems at NPTI-PSTI, Bangalore
- 26 Weeks Program in Operation & Maintenance of T&D system at NPTI-PSTI, Bangalore

- 6-Day Program in Distribution & Regulatory affairs conducted at Kabul, Afghanistan

- 6-Day Program in Specialization on Operation & Maintenance of Substation Equipment at NPTI, Faridabad

- 4-Weeks Engineers' Training of Trainers Program in Operation & Maintenance of Substation Equipment at NPTI, Faridabad

- 4-Weeks Technicians' Training of Trainers Program on Metering

Distribution Reform Upgrades and Management (DRUM) Training Program

The Distribution Reform Upgrades and Management (DRUM), project is a key initiative designed jointly by the Ministry of Power (MoP) and USAID/India. DRUM is launched with the purpose of demonstrating the best commercial, technological, and managerial practices in power distribution. The development of human resources holds the key to the success of distribution reforms. Accordingly, due impetus is being laid for capacity building of Indian Power Training Institutions (PTIs) and their cadre in providing sustainable training programs to the DISCOM utilities and the state regulatory commissions' personnel. NPTI was one of the partner institutions conducting several Training programs under DRUM.

Key focus area for training were under these broad themes

- Best practices in Distributed System Operation & Maintenance
- GIS- supported Network Planning, Analysis and Asset Management
- Best practices in Distribution Loss Reduction
- Electrical Safety Procedures, Accident Prevention and Disaster Management
- Distribution Efficiency and Demand side Management
- Customer satisfaction, communication and outreach
- Change Management in Power Distribution

GIS

A Geographical Information System (GIS) Resource Centre has been set up at NPTI Corporate Office, Faridabad. The Centre is conducting Post Graduate Diploma in GIS and Remote Sensing to meet the requirements of Power Sector.

Hot Line Training Centre

A facility has been created at NPTI's Hot Line Training Centre, Bangalore for Live Line Maintenance of Transmission Lines upto 400 kV (first of its kind in Asia) which enables trained personnel to attend to maintenance requirements without

power interruptions. Facilities for water washing of sub-station equipments are also available.

Consultancy Services:

In order to serve the industry requirements and make best usage of infrastructure and expertise, NPTI has ventured into providing consultancy services in Preparation of DPRs under R-APDRP, Part-B (11th Plan) and is assisting four (4) DISCOMs in preparation of DPRs. NPTI has also been appointed as REC Quality Monitor (RQM) for Tier-II Inspection of RGGVY Works under 11th Plan for Six (6) States in India. NPTI is empanelled as Third Party Inspecting Agency (TPIA) by Rural Electrification Corporation (REC) and has also been awarded the TPIA works by few DISCOMs for the RGGVY works under the 10th Plan & 11th Plan.

NPTI also provides consultancy in the field of Human Resources Development including Training Need Analysis, Up gradation of training facilities, Customized Course Designs, Capacity Assessment/Evaluation for Promotion etc.

Certificate of Competency in Power Distribution Program: Ministry of Power has taken an initiative for development of Human Resources at Group 'C' and 'D' level in Transmission & Distribution area with the assistance of USAID. A program for Certification of Competency in Power Distribution is being conducted in collaboration with IGNOU and NPTI. The program has been designed for the Technicians/Tradesmen working in Power Sector (sponsored by Utilities) and Non-sponsored general candidates at least 8th Pass. This course is being conducted at our Nagpur and Durgapur Institutes.

Indo-German Energy Program: M/s Evonik Energy Services (India) Pvt. Ltd. [formerly known as M/s STEAG Encotech (India) Pvt. Ltd. (SEL)], have entered into a long-term association with NPTI to implement the Project "Power Plant Performance Reporting and Improvement under Energy Conservation Act" in the country by way of organizing training programs/seminars/workshops etc. These programs are conducted in cooperation with Central Electricity Authority (CEA) and Bureau of Energy Efficiency (BEE).

Training and Capacity Building program for Power Holding Companies of Nigeria (PHCN), Nigeria:

NPTI signed an agreement for Training and Capacity building program in Power Sector for PHCN, Nigeria, with United Nations Office for Project Services (UNOPS) India.

The NAPTIN/PMU-UNOPPS-World Bank partnership for human resource development in power sector of Nigeria commenced with training modules for power professionals in Generation, Transmission, Distribution and Commercial/Marketing aspects in Distribution System were conducted in India in November, 2010 to February, 2011 for Senior & Middle level Managers. Also a one-week study-tour for Senior Power Professionals of different Holding

Companies of Nigeria including the senior functionaries of Ministry of Power of Federal Govt. of Nigeria was also conducted in India. A total of 140 numbers of Mangers of Nigerian Power Utilities were trained in India.

In continued implementation of this significant project on human resource development, eight (8) Experts from NPTI India and one UNOPS staff from India were on mission to Nigeria to facilitate In-country workshops for operational areas of power sector: Generation, Transmission, Distribution and commercial/marketing aspects in Distribution in Nigeria for 2 weeks. During this visit 140 numbers of executives were trained in Nigeria.

After successful completion of above project a new proposal/assignment of Training Curriculum development and validation and core faculty profiling for National Power Training Institute of Nigeria (NAPTIN) is being taken up in association with UNOPS, India.

NPTI has also offered its services to NAPTIN for setting up of a full-fledged Power Training Institute at Abuja.

NPTI's Publication and Multimedia CBTs

NPTI has published around 75 Training Manuals for different courses. NPTI has also developed more than 55 Multimedia Computer Based Training packages for power professionals and marketing them at reasonable prices to the utilities and educational Institutes.

Awards and Recognitions

NPTI was granted **ISO 9001:2000 & 14001 Quality Environmental Management Systems Certifications**.

NPTI's conscious commitments were recognized by the National Foundation of Indian Engineers (NAFEN) and their **'Best Training and HRD Institute of the Millennium Year Award'** was conferred on **NPTI** by the Hon'ble Minister of Power in 2000.

NPTI was conferred with the **ISTD National Award 2001-02 for Best HRD Practices: Second Best Organization'** in a National Competition.

"Jawaharlal Nehru Memorial National Award 2002" for Excellence in Energy Conservation was conferred on NPTI by the International Greenland Society, Hyderabad during 2000-01.

NPTI was conferred upon **"Mother Teresa Memorial National Gold Award 2003**" for the best Educational Institution in the country by the MSBR Educational Society, Hyderabad.

NPTI Corporate Office was awarded with **NTPC Rajbhasha Shield for Excellent work in Hindi** for the year 2005-06.

NPTI was conferred with award for "**Institutional Building"** for the year 2008-09 by the World HRD Congress, Mumbai.

NPTI has been conferred the award for "**Excellence in Training"** for the year 2010-11 by the World HRD Congress, under the category Employer Branding Award.

NPTI has been conferred the award for "**Best Learning and Development Strategy"** for the year 2010-11 by the World HRD Congress, under the category shine.com HR Leadership Award.

National Power Training Institute (NPTI) has been conferred 4th India Power Awards 2011 instituted by Council of Power Utilities for **"Excellent work in imparting training to Power Engineers".**

Setting up of New Training Institutes

Solapur Power Industrial Training Institute (Maharashtra): In order to mitigate the shortage of trained manpower, it has been decided to set up an Institute which will focus on skill development of Power Sector Personnel in the area of generation, transmission and distribution. The Institute will offer National Council of Vocational Training (NCVT) recognized ITI courses for 8th/10th/12th pass students as well as working personnel of Power Sector. The Institute is being constructed by NTPC and will be managed by NPTI.

Establishment of Mining Training Institute at Barkagaon, Jharkhand: NTPC has approached NPTI for managing an ITI level Mining Training Institute at Barkhagaon in Hazaribagh District of Jharkhand. NTPC will create the infrastructure required for establishing the aforesaid Institute and NPTI shall run the Institute on its completion by entering into a tripartite Memorandum of Understanding.

Placement

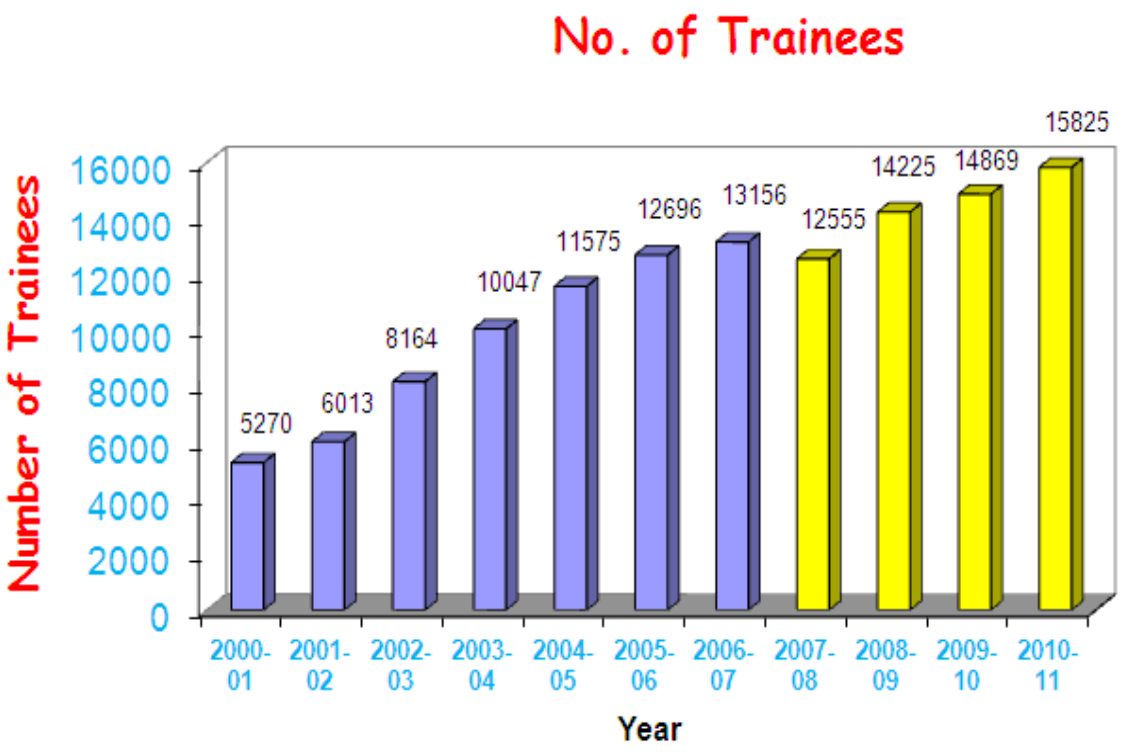
Students of MBA in Power Management, B.Tech. in Power Engineering, Post Graduate Diploma Course and Post Diploma Courses are finding placement in reputed companies like CRISIL, CARE, BSES, KPMG, REL, Moser Baer, Lanco, GMR, Feedback Ventures, Suzlon, Tata Power, Torrent Power, Price Water House Coopers, Deloitte, etc.

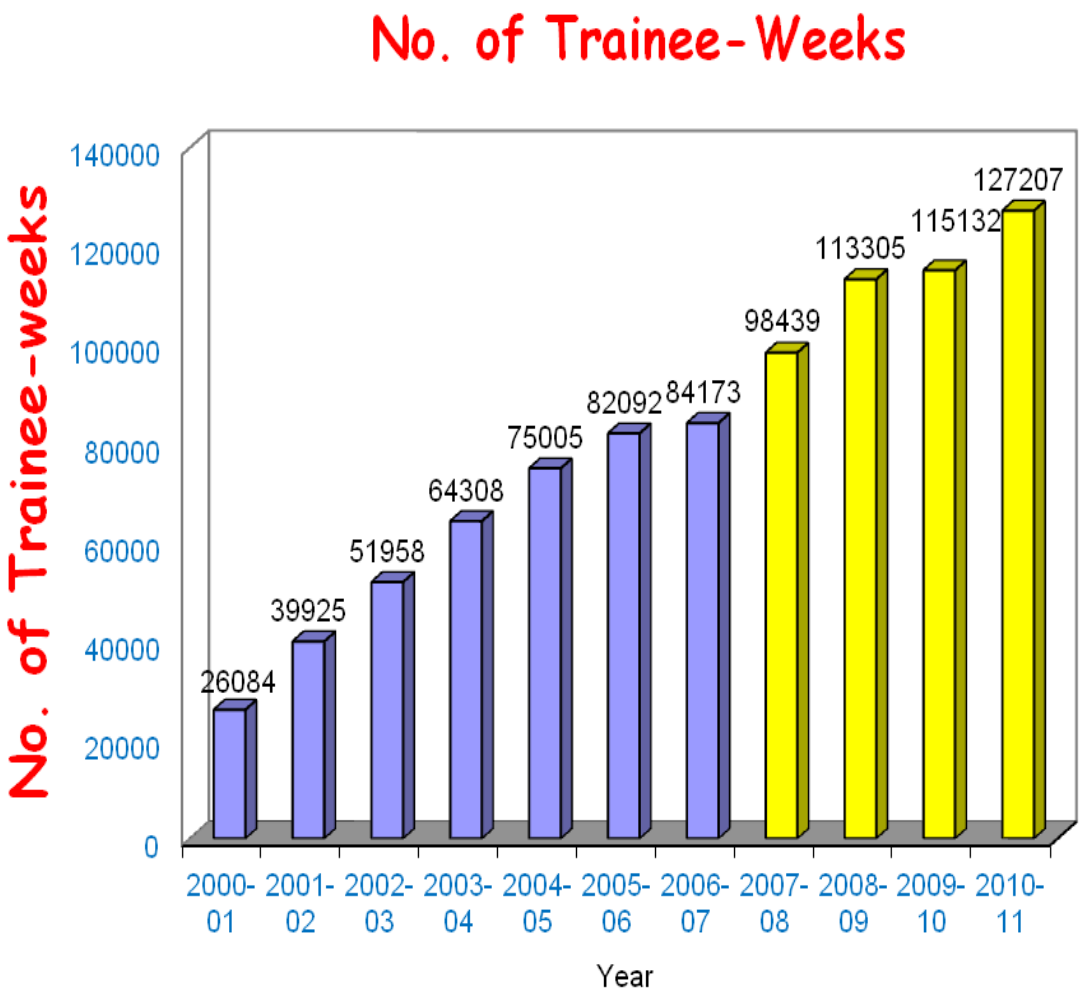
Achievements & Performance

Since the inception of its first Institute in 1965, NPTI has so far imparted training to more than 1, 80,000 personnel from Central Public Sector Undertakings, State Electricity Boards (SEBs), Power Utilities and Private Sector organizations. About

9,100 operation engineers have been imparted effective integrated unit operation training on the Simulators available with NPTI.

The graphic representation of key performance parameters of NPTI over a period of 10 years is shown below:

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No. of Trainee-weeks
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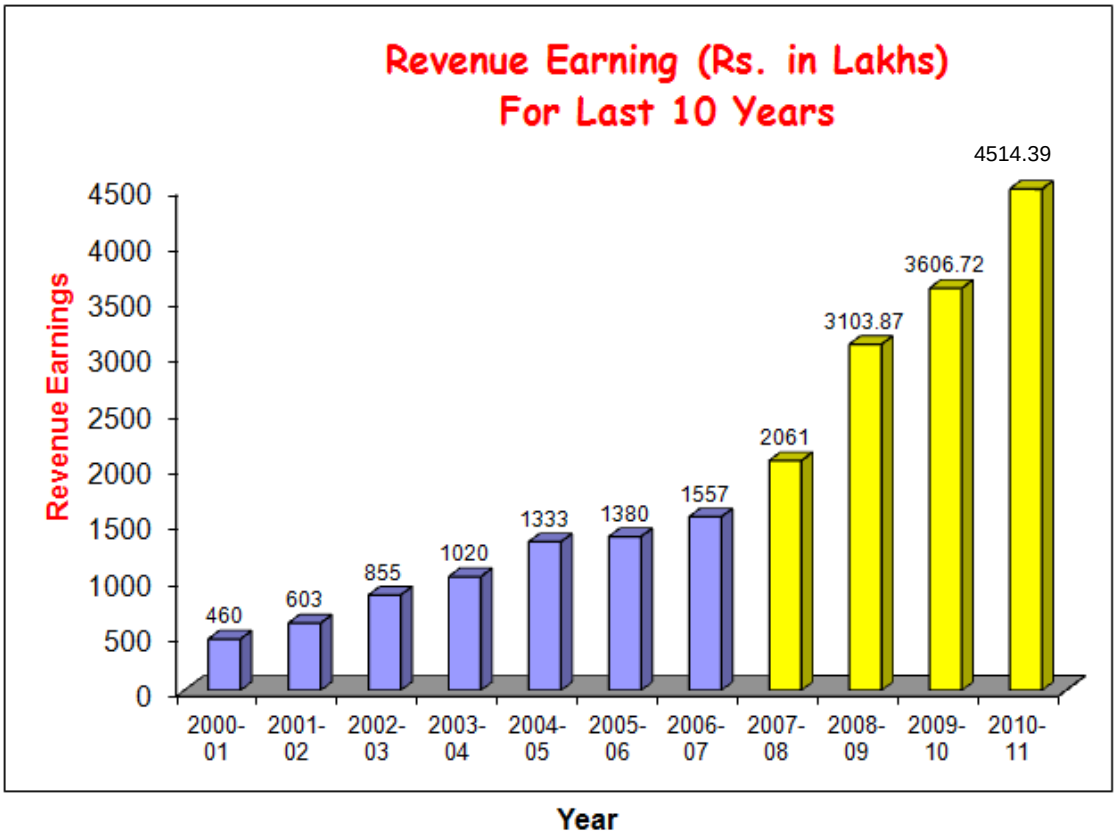

2.0 NPTI's Training Strategy

The training needs of the power sector personnel are described in the following paragraphs:

i) O&M Training to all existing employees engaged in O&M of generating projects (Thermal, Hydel, Gas) and Transmission & Distribution System as per statutory requirements under the Gazette Notification of September 2010 issued by CEA ranging from 4 Weeks to 30 Weeks.

This inter-alia includes the following:
- Classroom Training
- Simulator Training for Thermal and Hydel
- On-Job Training

ii) Induction level training for new recruits for 1 month (Technical & Non-Technical) is considered a must in the power sector

iii) Refresher/Advanced training of 5 Days in a year to all existing personnel of varying degrees in various specializations in line with National Training Policy for Power Sector.

iv) Management training of 5 Days in a year to the senior Executives/Managers in India/Abroad in line with National Training Policy for Power Sector.

Approach for Capacity Building in Training

O&M Training

As per Gazette Notification of September 2010 issued by CEA, Engineers, Supervisors and Technicians engaged for O&M of Power Projects (Thermal, Hydel, Gas) and T&D have to mandatorily undergo training ranging from 4 weeks to 30 weeks as per the various sector specializations and branches of engineering.

On-job Training Facility

On the job training is also now mandatory for all trainees who are being given training in O&M of Generation Projects (Thermal, Hydel, Gas) and Transmission & Distribution. This training varies from 2 weeks to 16 weeks.

Notification from MoP/CEA is proposed so that Trainees being given Training by NPTI can be given On-Job training as per the Gazette notification issued by CEA.

Induction Training

All technical personnel at the time of induction should be given at least 1 month induction training.

Refresher/Advanced Training

Refresher/Advanced Training must be arranged for each individual on promotion, which calls for performing new/different roles and working conditions.

A mix of Technical, Commercial and Management capabilities of 1 week is proposed.

Management Training

Continuous development of Executives/Managers, especially at the transition period of their career and in the context of constantly changing business environment is of utmost importance. Executives in Finance and Management with non-technical background should also be provided technical orientation through suitable training programs. For this a training of 1 week is proposed.

Simulator Training

As per the Notification, Simulator training of 2 weeks is a must for Operation and Maintenance personnel of Thermal and Hydro plants. This is included in O&M

training above. For safe and efficient functioning of manual and automatic equipment, personnel have to be trained on Simulators.

Training in Renewable Sources of Energy

Since the nature of energy system itself is likely to change in the future, it is essential that renewable energy be integrated into traditional engineering curriculum.

Apart from above, it is proposed that specialized training of at least 1-2 months should be given in various renewable energy technologies like solar, wind, bio-mass, small hydel etc.

Training in Demand Side Management, Energy Efficiency and Energy Conservation

Training for Energy Managers and Energy Auditors, Top Level Industry personnel, Operators, Farmers, Drivers, General Public & Youth should also be provided in respect of DSM, Energy conservation & Energy efficiency. Energy conservation should also be a part of course curriculum for students.

Power System Operators Training & Certification

System Operators & Engineers should be given regular refresher training and the new entrants should be given exhaustive training of 3 months. This training shall be required to be given to about 250 – 300 trainees every year during the 12th Plan.

Capacity Building under R-APDRP

It is envisaged that around 50,000 employees of various state power distribution utilities will be trained under Part C of R-APDRP scheme with focus on enhancing skills at various levels for efficient management and operation. A provision of Rs. 200 crores has been kept in R-APDRP for capacity building, franchise development and training. NPTI may take up training in this area.

HRD and Technical Competence Building due to Technology Advancement

In order to match the growth rate, technology advancement and needs, skilled manpower development is emphasized and development of such manpower needs to be addressed by NPTI.

Introduction of Training on Attitudinal Changes / Behavioral Sciences

It is highly recommended to introduce training on Attitudinal Changes / Behavioral Sciences in the curriculum of induction level training as well as re-training programs. After undergoing such training, the personnel develop a sense of belongingness to the respective organizations they serve.

In addition to technical Skills, Power Professionals need to have soft skills like Communication Skills, Time Management, Team Work, Technical Writing, Ethics etc., also

Training in Information Technology

Information technology has pervaded all spheres of life. Adequate training according to the job requirement should be provided in the field of information technology. Use of IT should be promoted and maximum number of personnel should be made computer literate.

Opportunities for Higher Studies

New courses that effectively enable acquisition of higher qualifications to working employees may be introduced.

Training of Non-Technical Officers and Staff

It has been noticed that in the technology centered organizations like Power Utilities, the training of Non-technical officers and staff is often neglected/ignored. Training of non-technical officers and staff should be done on regular intervals in the functional skills/Management areas and NPTI may address such training needs in association with the concerned Institutes.

HRD and Capacity Building for Power Generating Stations

It is proposed to have a capacity building program for the Executives, Engineers, and Operators of Thermal Power Stations in both State and Central Sectors in the areas of Energy Management and Energy Audit to increase their awareness.

Hot Line Maintenance Training

NPTI proposes to increase their training operations in Hot Line Maintenance training as there is a great demand from various Utilities.

Training needs for North-Eastern Region

There are special training needs for North-Eastern Region for which special attention is to be paid. NPTI proposes to address their needs through their institute located in this region.

Training through Distance learning education & Web based Training

Since it may not be possible for all the Persons engaged in Construction and O&M of Power Projects, knowledge up gradation & training is suggested through Web based Training programs and NPTI proposes to address this in the 12^{th} & 13^{th} plan periods.

Provision for Training budget

In line with the National Training Policy for the Power Sector, NPTI proposes training budget for upgradation of their faculty to international standards.

3.0 Program of Activities Physical & Financial for the XII Plans

NPTI has been expanding its activities with a committed and effective approach in the fields of Training & HRD and Education working with time conscious work plans interfacing technology options and integration of academics with industry interfaced inputs. This work plan also intersperses technology options and addresses thrust areas in meeting the objective of addition of 200,000 MW of power by Ministry of Power in the next decade together with Reforms on a war footing in India.

The Vision for the 12th Plan (2012-2017):

NPTI proposes to expand its training activities from Thermal, Hydro, T & D to other areas like Renewable Energies viz. Wind, Solar, Biomass and other non-conventional sources, Rural Energy, Power Trading etc.

Expansion of NPTI's training activities at the International Level with main focus on Afro-Asian and East European countries

Creation of library with world class facilities with e-books/e-journals

Computerization of the Institutes and networking

Offer more Post Graduate courses in Power and Management

Establishment of Super Critical 660/800 MW Simulator

Procurement of Working Models for Power Plant Equipment

Establishment/Upgradation of Mechanical Maintenance Labs, Hydro Silt Labs, NDT, Electrical and C&I Labs for hands-on training and skill development.

Procurement of new lab Equipment to meet the training requirements of existing and proposed courses

4.0 The Vision for the Twelfth Plan (2012-2017)

NPTI to emerge as a global leader in HRD of Power and Energy Sectors and provide value orientation and value addition to national and transnational power and energy sectors through training in HRD.

NPTI has requested Ministry of Power for Sanction of Plan Fund/ Grant of Rs. 809.87 Crores towards Renovation and Modernization of existing Nine Institutes and for Augmentation of existing Nine Institutes for meeting the O&M Training needs of Thermal, Hydel, T&D etc.as provided in CEA Notification of Sept., 2010 and also towards setting up of one new Institute at Kerala.

Proposed Plan Schemes
During 12th Five Year Plan (2012-2017)
Summary of Schemes

Sl. No	Institutes	Proposed cost (Rs. In Lakhs)				Total (Rs. In Lakhs)
		Group –I spillover cost from 11th Plan to 12th Plan	Group –II Renovation & Moderniz-ation of existing Institute	Group –III Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Group –IV Setting up of New Institute	
1	NPTI (HQ), Faridabad	1480.21	8100	5000	---	14580.21
2	NPTI(NR), Badarpur, ND	---	1740	5000	---	6740
3	NPTI(HPTC), Nangal	---	1570	5000	---	6570
4	PSTI, Bangalore	---	4641	5000	---	9641
5	HLTC, Bangalore	---	1200	5000	---	6200
6	NPTI(SR), Neyveli	---	2036	5000	---	7036
7	NPTI(ER), Durgapur	---	4431	5000	---	9431
8	NPTI(NER), Guwahati	---	1545	5000	---	6545
9	NPTI(WR), Nagpur	---	4416	5000	---	9416
10	New Institute Kerala	---	---	---	4828	4828
	Total	**1480.21**	**29679**	**45000**	**4828**	**80987.21**

Say Rs. 810 Crores

Proposed Plan schemes
During 12th Five Year Plan (2012-2017)

1. Name of the Institute : NPTI HQ, Faridabad

Group	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	Implementation & upgradation of training facilities of NPTI Corporate office at Faridabad (Time over run without cost over run)	**1480.21**
Group – II Renovation & Modernization of existing Institutes	1) Procurement of land measuring 5 to 7 acres for extension of (HQ) in NCR / Faridabad / Delhi	1500
	2) Setting up new infrastructure in extension area	3600
	3) Setting up training facilities for non conventional energy and infrastructure sector with pilot project for SPV/ Solar / Biomass / Biogas / Wind etc.	1800
	4) Construction of foreigners guest house cum hostel with swimming pool etc. 30 suits	750
	5) Renovation & upgradation of existing simulators	250
	6) Computerization of the Institute	200
	Sub Total of Group - II	**8100**
Group – III Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Setting up of new facilities for capacity building of NPTI to undertake enhanced training load.	**5000**
Group – IV Setting up of New Institute	-------	NIL
	Grand Total (Group I to IV)	**14580.21**

2. Name of the Institute : NPTI(NR), Badarpur

Group	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	-----	NIL
Group – II Renovation & Modernization of existing Institutes	1) Renovation o Auditorium including interior, AV & ACs etc.	90
	2) Vertical extension of Main Institute building – 2200 sq.mtr.	450
	3) Renovation and upgradation of existing hostel building	40
	4) Exterior finishing of existing workshop & face lifting of hostel	175
	5) Setting up of facilities for distance learning at NPTI (NR) including in 'e' learning mode for improving educational qualifications of staff working in Power Utilities.	150
	6) Upgradation of Water Supply system, Borewell / RO Systems	10
	7) Upgradation of workshops for training of Technicians, foreman and workmen etc.	100
	8) Face lifting of Institute building including renovation of lawns etc.& upgradation of existing facilities	150
	9) Replacement of existing 210 MW simulator	400
	10) Renovation of Electrical supply in NPTI (NR) including - 250 sq.mm 3 ½ core cable replacement from NTPC Sub Station to NPTI workshop. - 04 Power Panel replacement. - Rewiring of Main Building Electrical Supply	25
	11) Power System Lab with 30 terminals using Analysis application packages.	50
	12) Computerization of the Institute	100
	Sub Total of Group - II	**1740**

<u>Group – III</u> Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Setting up of new facilities for capacity building of NPTI to undertake enhanced training load.	**5000**
<u>Group – IV</u> Setting up of New Institute	-------	NIL
	Grand Total (Group I to IV)	**6740**

3. Name of the Institute : NPTI, HPTC, Nangal

S.No.	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	----	NIL
Group – II Renovation & Modernization of existing Institutes	1) Construction of quarters Type-IV – 4 Nos. Type-III – 3 Nos. Type-II – 4 Nos.	135
	2) Construction of 100 bed Hostel	550
	3) Establishment of T&D, Mechanical, Hydro silt (Phase-II) labs	175
	4) Construction of Auditorium building with Conference Hall + Lab – 3 Nos.	350
	5) Horizontal extension of Institute Building with 4 x 60 class room, 2 toilet blocks and related infrastructure	150
	6) Furniture fixture for new infrastructure and upgradation of existing facilities with Training Aid Equipment	110
	7) Computerization of the Institute	100
	Sub Total of Group - II	**1570**
Group – III Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Setting up of new facilities for capacity building of NPTI to undertake enhanced training load.	**5000**
Group – IV Setting up of New Institute	-------	NIL
	Grand Total (Group I to IV)	**6570**

4. Name of the Institute : PSTI, Bangalore

Group	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	----	NIL
Group – II Renovation & Modernization of existing Institutes	1) Construction of 3rd and 4th floors to accommodate 50 more beds in Executive Hostel	330
	2) Completion of first floor with additional 9 rooms, kitchen, dining hall etc. in Guest faculty house	120
	3) Independent Girls hostel to accommodate 20 beds	120
	4) Land scaping of undeveloped area of PSTI land to the extent of 5 acres and Road formation within it.	50
	5) Setting up of GIS lab	25
	6) Construction of 200 capacity auditorium	350
	7) Construction of overhead bridge between office block and hostel	150
	8) Providing Underground Drainage facilities to PSTI Complex	30
	9) Establishment of Model Sub-station	200
	10) Computerization of the Institute	100
	11) Setting up facilities for two year full time MBA in Power Management Program	3166
	Sub Total of Group - II	**4641**
Group – III Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Setting up of new facilities for capacity building of NPTI to undertake enhanced training load.	**5000**
Group – IV Setting up of New Institute	-------	NIL
	Grand Total (Group I to IV)	**9641**

5. Name of the Institute: HLTC, Bangalore

Group	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	----	NIL
Group – II Renovation & Modernization of existing Institutes	1) Construction of 400 KV dummy switchyard with 11 KV charging for conducting maintenance course	350
	2) Construction of 765 KV line	100
	3) Construction of Buildings for lab with associated accessories, electrical and sanitary fittings	150
	4) Modification of existing 400 KV line	75
	5) Construction of New Executive Hostel 20 persons	275
	6) Construction of 500 KV + / - HVDC line	150
	7) Computerization of the Institute	100
	Sub Total Group - II	**1200**
Group – III Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Setting up of new facilities for capacity building of NPTI to undertake enhanced training load.	**5000**
Group – IV Setting up of New Institute	-------	NIL
	Grand Total (Group I to IV)	**6200**

6. Name of the Institute : NPTI (SR), Neyveli

Group	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	----	NIL
Group – II Renovation & Modernization of existing Institutes	1) Provision of full scope simulator(either super critical Tech. or CFBC Tech.)	400
	2) Construction of a block to house Library, Simulator and 4 class rooms	600
	3) Construction of a common dining hall, kitchen to cater 4 hostels and about 250 inmates	225
	4) Horticulture works in the Institute campus	35
	5) Trainees amenity like play – ground, gym, etc.	25
	6) Other miscellaneous works (electrical works in the campus)	10
	7) Procurement of training aids, upgrading lab, facilities, Audio visual equipments, modernizing laboratories, workshop etc.	50
	8) Converting the present office in to modern office with cubical arrangements and work stations and internet facilities for all tables etc. and procurement of new office furniture, dining hall furniture.	30
	9) Upgradation & augmentation of existing infrastructure	120
	10) Hostel renovation + independent TV halls for Hostel A, B & C	237
	11) Vertical Ext. of New Executive Hostel (18 rooms)	175
	12) Upgradation of water supply system	29
	13) Computerization of the Institute	100
	Sub Total of Group - II	**2036**
Group – III Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Setting up of new facilities for capacity building of NPTI to undertake enhanced training load.	**5000**
Group – IV Setting up of New Institute	-------	NIL
	Grand Total (Group I to IV)	**7036**

7. Name of the Institute : NPTI(ER), Durgapur

Group	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	----	NIL
Group – II Renovation & Modernization of existing Institutes	1) Establishment of T&D resource centre for distribution training in vacant land available of 5.47 acres	3500
	2) Augmentation of B.Tech. & P.G.D.C lab	25
	3) Additional 3rd floor of the new B.Tech. Building	175
	4) Additional PGDC course at proposed campus with Hostel & class room at the new site	10
	5) Upgradation of electrical system	51
	6) Upgradation of augmentation of existing infrastructure	170
	7) Provision of full scope simulator (either super critical Tech. or CFBC or Hydro)	400
	8) Computerization of the Institute	100
	Sub Total of Group - II	**4431**
Group – III Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Setting up of new facilities for capacity building of NPTI to undertake enhanced training load.	**5000**
Group – IV Setting up of New Institute	-------	NIL
	Grand Total (Group I to IV)	**9431**

8. Name of the Institute : NPTI, (NER), Guwahati Phase-II

Group	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	----	NIL
Group – II Renovation & Modernization of existing Institutes	1) Construction of quarters Type-IV – 4 Nos. Type-III – 3 Nos. Type-II – 4 Nos.	135
	2) Construction of 100 bed Hostel	550
	3) Establishment of T&D, Mechanical, Hydro silt (Phase) labs	150
	4) Construction of Auditorium building with Conference Hall + Lab – 3 Nos.	350
	5) Horizontal extension of Institute Building with 4 x 60 class room, 2 toilet blocks and related infrastructure	150
	6) Furniture fixture for new infrastructure and upgradation of existing facilities with Training Aid Equipment	110
	7) Computerization of the Institute	100
	Sub Total Group - II	**1545**
Group – III Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Setting up of new facilities for capacity building of NPTI to undertake enhanced training load.	**5000**
Group – IV Setting up of New Institute	-------	NIL
	Grand Total (Group I to IV)	**6545**

9. Name of the Institute : NPTI(WR), Nagpur

Group	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	----	NIL
Group – II Renovation & Modernization of existing Institutes	1) Replacement of 210 MW Simulator	400
	2) Modernizaion of Control and Instrumentation Laboratory	25
	3) Re-vamping of Fire Alarm & Extinguishing system for simulator, installation of new fire alarm system for the entire Institute building fire hydrants.	50
	4) Upgradation of Recreation club and extension of Gymnasium facility and indoor games etc.	30
	5) Installation of Advance Energy Audit Lab, Testing and demonstration system for energy efficiency conservation techniques.	50
	6) Solar lighting system for the entire complex.	45
	7) Installation working model of Power Plant including building construction	120
	8) Upgradation of physics and chemistry lab.	5
	9) Renovation and re-construction of entire campus boundary wall	225
	10) Renovation and upgradation of old B & C wings of Old Hostel and Executive Hostel	40
	11) Establishment of T&D lab	10
	12) Procurement of models for Power Plant equipments	50
	13) Upgradation of computer lab	20
	14) Establishment of Mechanical Maintenance Lab	25
	15) Construction of New Guest House of 4 rooms including dining, kitchen facility including furniture	30
	16) Purchase of furniture for class rooms and office	25
	17) Computerization of the Institute	100
	18) Setting up facilities for two year full time MBA in Power Management	3166

	Program	
	Sub Total Group - II	**4416**
<u>Group – III</u> Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	Setting up of new facilities for capacity building of NPTI to undertake enhanced training load.	**5000**
<u>Group – IV</u> Setting up of New Institute	-------	**NIL**
	Grand Total (Group I to IV)	**9416**

10. Name of the Institute : New Institute Kerala

Group	Description	Amount (Rs. In lakhs)
Group – I Spillover cost from 11th Plan to 12th Plan	-----	NIL
Group – II Renovation & Modernization of existing Institutes	----	NIL
Group – III Augmentation of existing Institutes to meet the Trg. Needs as per CEA regulation of Sept, 2010	----	NIL
Group – IV Setting up of New Institute	Setting up of National Power Training Institute at Alappuzha, Kerala	**4828**
	Grand Total (Group I to IV)	**4828**

5.0 SWOT Analysis of NPTI

Strengths

The patronage of MOP & CEA has been the strength. The expertise and stature of the members of the Society as well as Governing Council of NPTI is available to NPTI's endeavors to achieve heights of excellence.

NPTI is the only institute of its kind in the world with a wide geographical spread and covering vide gamut of academic and training programs in Power Sector. The academic programs such as MBA in Power Management, B.Tech./B.E. in Power Engg., PGDC & PDC in Thermal Power Plant Engg., 39-week O & M in Hydro, 26-week O & M in T & D etc., in particular are industry-interfaced with the backward integration of NPTI's power training expertise, accepted by the electricity industry with an exceptionally encouraging feedback and Campus placement.

Committed faculty providing excellent training in the Power Sector, which is the most important among various infrastructure sectors.

Can provide Class-room, on-job training in all the areas and specialisations of the power sector. Also hands-on operational skill development exercises can be imparted on Generation Simulators in the areas of - Thermal, Combined Cycle Gas Turbines and Hydro. Also Load Despatch Simulator is also established with NPTI for training Grid operators.

Training provided by NPTI on Generation Simulators has improved Plant Load Factor of generating Units, has increased the availability of Transmission & Distribution System and has decreased Aggregate Technical & Commercial (AT&C) Losses. This in turn is providing more power to the country.

Unique Computer Based multimedia training packages on different power plant sub-systems are available with NPTI for trainee-driven comprehensive training, understanding and conceptual assimilation of the practical requirements.

NPTI is well established in the field of training in Thermal, Hydro, Power Systems etc.

NPTI has established a Hot Line Training Centre, one of its kind imparting training on live lines which is not available anywhere in India

Weaknesses

Less Autonomy:- More operational autonomy & flexibility is desirable for effective functioning of the Institute as long as the employees work towards their stated goals.

The Institute should further its efforts in adapting Information Technology, establishing with perfect intra and inter-unit facilities.

Emoluments structure in line with the Industry should be devised to attract the best Guest Faculties in their respective domain

Opportunities

Multi-dimensional enlargement of Scope

NPTI should expand its activities from Thermal, Hydro, Power System to other areas like Nuclear, Renewable Energies viz. Wind, Solar, Biomass and other non-conventional sources, Rural Energy etc.

It should enlarge its coverage from O&M to all the facets of technology like, R&M, R&D, EA & EC etc. in the technology-intensive power sector.

NPTI should enhance its role to conduct specialized courses to the higher echelons of Power Sector and also Management Development Programs as well interfacing power sector intensive case-studies for the benefit of the electricity industry. This will catapult and sustain NPTI as a premier power sector organization.

NPTI can also conduct one year Executive MBA Program, Three years Part Time MBA Program, MBA through distance learning mode.

NPTI can provide training to all existing employees engaged in Operation and Maintenance of Generating Projects(Thermal, Hydel, Gas) and Transmission and Distribution as per statutory requirements under the Gazette Notification of September 2010 issued by CEA ranging from 4 Weeks to 30 Weeks.

NPTI should offer comments/suggestions on drafts being floated by different Regulatory Commissions on various emerging issues of the Indian Power Sector. This will provide NPTI to leverage its brand in offering Regulatory issues Consultancy to other players.

The institute should expand its role in a big-way from technology training to technology-management interface, power-environment interface, power-financing, privatization and regulatory issues, etc.

NPTI should harness its potential for Consultancy through which its income, prestige and self-esteem may propel perching itself as an able-body in the power industry.

Threats

Looking at the increased HR requirements in the power sector and viewing training as a responsive business model several Institutes/Business Houses are attempting to establish in the market as competitors. These institutes may have an advantage of more autonomy and thereby can take-up sweeping decisions to very quickly come-up challenging the uniqueness of NPTI in no-time.

In view of the market for good trainers and ensuing competition, retention of skilled technical manpower/trainers at NPTI may become increasingly difficult as more opportunities galore.

6.0 Turn-around on Self-sustenance and Stabilization

While Plan funds coming, as Grant-in-aid from the GoI is welcome for institute's infrastructure development, and since NPTI is self-sustaining for the past few years, the same should be aimed at on a continuous basis to meet the non-plan expenditure and become totally self-reliant. The grants/plan funds from the ministry may be used to develop world-class infrastructure in the shortest possible time so as to tide up the competition in a certain way.

Since, the present hostel infrastructure is limited, the trend for increasing the key-parameters in No. of Trainees and Trainee-weeks should be curbed at present introspected and quality of programs has to be exceptionally increased by raising the bar, which would automatically spiral NPTI to new-levels of reckoning and would also arrest competition with the up-coming institutes. Quality may be reckoned as the main-stay for the next few years before new infrastructure comes into place.

The training & HRD needs of power sector should be assessed afresh and NPTI programs tailor made to the current and anticipated future needs. The emerging areas like power sector reforms, information technology, privatization, regulatory issues, environmental issues, loss prevention, power theft and vigilance etc., should be taken cognizance of and specialists in the respective areas in each institute of NPTI is a must.

Being an apex institution, NPTI should offer programs for 'Training of Trainers' in Power Sector, which would enhance its superior position in the sector.

Courses in Renewable Energy should be launched.

Networking with reputed organizations may be attempted for training and consultancy.

Training packages for the profit-oriented private sector may be designed and launched to attract trainees whose employers have better capacity to pay.

Emerging areas of renewable energies should be attended to. USAID, UNDP, MNRE and IREDA like organizations would be potential sponsors for such programs. Their needs for 'capacity-building' may be fresh and enormous.

Technical Assistance and Training components of all the assistance coming from the World Bank and other donor agencies should be studied and tapped.

MOUs should be negotiated with reputed organizations in power and energy sectors, research and training organizations, Technical Universities etc. for collaboration and mutual benefits in achieving their shared vision.

The existing infrastructure and staff should be optimally utilized by increasing the number of long-term and short-term courses. Organizing workshops and seminars on specialized subjects for various layers of the power sector may be attempted.

The good work done in multimedia CBT area should be carried forward and marketed appropriately to become promising revenue stream.

The publications of NPTI should be graduated to commercial scale to become a source of revenue.

NPTI should enter into the area of EA & EC quickly to tap the market.

Esteem Building for the institution

The patronage of MOP & CEA has been our strength. The expertise and stature of the members of the Society as well as Governing Council of NPTI is available to us in endeavors to achieve heights of excellence.

NPTI should draw-up a list of faculty locally available in NHPC, BHEL, Power Grid, MOP, MNES, IREDA, REC, PFC in a reasonable radius from the institute. Computerized information system on the expertise available locally as well as in the country should be maintained and updated continually.

With its national / Government stature in the background, NPTI should draw up a list of 'NPTI Experts of Eminence', to stand behind as an 'aura' of the institute.

A 'Value & Vision' cell should be opened in NPTI, which should address value orientation to power sector and vision for the 21st century.

Every possible effort to retain and maintain NPTI's national focus and creating an international image should be made. Programs for power professionals from other developing countries in the region should be organized for making it known as a prestigious institution in the Asia-Afro Pacific Region.

NPTI's Think Tank should be launched to address the conceptual issues of Power Sector.

In-house Capacity Building and Performance orientation.

Full development of its infrastructure, its upkeep and expansion should continue with the same vigour and seriousness.

Staff welfare, motivation, esteem and staff-training should have an utmost priority in a HRD institution like NPTI.

Attempts to attract Best talent in the country should be made.

Power-Environment centre should be established at a faster pace.

NPTI should focus on quality for its various programs.

The good work done by our placement efforts through campus interviews of our various programs should be carried forward with intense interest and should be extended beyond the boundaries in as much as NPTI becomes a placement organization for the entire power sector.

Periodic Unit-Heads meetings to be held to ensure funneling down of corporate thinking to the Regional Institutes.

The institute should further its efforts in adapting Information Technology, establishing with perfect intra and internet facilities.