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PART II

Statutory Notifications (S.R.O.)  
GOVERNMENT OF PAKISTAN

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY  
(NEPRA)

NOTIFICATION

*Islamabad, the 1<sup>ST</sup> March, 1999*

S.R.O. 142 (I)/99.— In exercise of the powers conferred by section 47 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997), the National Electric Power Regulatory Authority hereby notifies the following regulations, namely:—

PART I

1. **Title and commencement.**— (1) These regulations may be called the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999.

(2) They shall come into force at once.

2. **Definitions.**— (1) In these rules, unless there is anything repugnant in the subject or context,—

(a) "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997);

(b) "application" means an application made by a person in accordance with the provisions of these regulations and shall, where the context so admits, include the documents-in-support, and "applicant" shall be construed accordingly;

(c) "Authority proposed modification" means a modification to a licence proposed by the Authority;

- (d) "documents-in-support" means the documents to be provided with the application for the licence or subsequently, in accordance with regulation 3;
- (e) "information" includes documents, accounts, reports, records, data, returns or estimates of any description;
- (f) "licensee proposed modifications" means a modification to the licence proposed by the licensee;
- (g) "NEPRA (Fees and Penalties) Rules" means the rules developed by the Authority in respect of the payment of fees by the licensees and the procedure for imposition and payment of fines and penalties levied by the Authority;
- (h) "Ordinance" means the Companies Ordinance, 1984;
- (i) "prospectus" means a report prepared by the applicant setting out:
  - (i) a brief introduction of the applicant;
  - (ii) the salient features of the facility or the system in respect of which the licence is sought;
  - (iii) the proposed investment; and
  - (iv) the social and environmental impact of the proposed facility or system in a non-technical and commonly understood language; and
- (j) "Registrar" means the officer of the Authority appointed to perform the functions of the Registrar laid down in these regulations.
- (k) ["Captive Power Plant" means Industrial undertakings or other businesses carrying out the activity of power production for self consumption, who intend to sell the power, surplus to their requirement, to a Distribution Company or bulk-power consumer.]<sup>1</sup>
- (2) Words and expressions used but not defined in these regulations shall have the same meaning as in the Act.

## PART II

3. **Application for licence.**— (1) An application for a licence shall be made in the form specified in Schedule I to these regulations.

(2) The applicant shall pay a non-refundable application fee to the Authority for the consideration and processing of the application, calculated in accordance with Schedule II to these regulations.

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<sup>1</sup> Added by S.R.O 737(I)/2008 dated 9 July 2008.

(3) The registrar shall not receive the application unless it is accompanied with the correct amount of application fee.

(4) The application for a licence shall be submitted in triplicate.

(5) The following documents-in-support shall be filed along with the application for a licence:

(a) certified copies of:

(i) certificate of incorporation;

(ii) memorandum and articles of association;

(iii) in case of an applicant who has submitted the annual return required to be submitted to the registrar of companies pursuant to section 156 of the Ordinance, the last filed annual return;

(iv) in case of an applicant to whom sub-clause (a)(iii) of sub-regulation (5) is not applicable, a return comprising all such information, in as close a form and content as possible, laid down in the third schedule to the Ordinance;

(b) a reasonably detailed profile of the experience of the applicant, its management staff and its members in the electricity industry;

(c) the curriculum vitae of the applicant's senior management, technical and professional staff;

(d) evidence, satisfactory to the Authority, of the availability of adequate financial and technical resources to the applicant for the purposes of the generation, transmission or distribution business, as the case may be, and such evidence may consist of:

(i) cash balances held in reserve along with the bank certificates;

(ii) expressions of interest to provide credit or financing along with sources and details thereof;

(iii) latest financial statements of the applicant;

(iv) employment records of engineering and technical staff of the applicant proposed to be employed;

(v) profile of sub-contractors, if any, along with expressions of interest of such sub-contractors; and

(vi) verifiable references in respect of the experience of the applicant and its proposed sub-contractors;

- (e) in respect of a going concern, details of any charges or encumbrances attached to the company's assets;
- (f) in case of a first application for a licence by a going concern, technical and financial proposals in reasonable detail for the operation, maintenance, planning and development of the generation, transmission or distribution facility or system in respect of which the licence is sought;
- (g) in case of:
  - a) generation licence applications, the type, technology, model, technical details and design of the facilities proposed to be acquired, constructed, developed or installed;
  - b) distribution and transmission licence applications,
    - i. the type, technology, model, technical details and design of the facilities proposed to be acquired, constructed, developed or installed;
    - ii. a territorial map of the service area proposed to be covered;
    - iii. particulars in respect of the availability, sources, rates and evidence of commitments from the sources of electric power.
- (h) in case of a licence for a new facility or system, a feasibility report in respect of the project, specifying in detail:
  - i) the type, technology, model, technical details and design of the facilities proposed to be constructed, developed or installed;
  - ii) the expected life of the facility or the system;
  - iii) the location of the facility or the system, or the territory with outer boundaries within which the facilities or the system is proposed to be installed and operated by the licensee, along with maps and plans; and
  - iv) the type and details of the services proposed to be provided; and
- (i) a prospectus.

[(5)-A The following documents-in-support shall be filed alongwith an application for a licence by a Captive Power Plant:

- (i) Certificate of Incorporation of applicant;
- (ii) Memorandum of Articles of Association of applicant;
- (iii) Latest financial statement of the applicant;
- (iv) Location (Location map, site map);

- (v) Type of Technology;
- (vi) Number of units (No.)/Size (MW);
- (vii) Year Make/Model. Operation date and expected remaining life;
- (viii) Installed capacity, de-rated capacity, Auxiliary Consumption, Net Capacity;
- (ix) Fuel (Oil/Gas): type, imported/indigenous, supplier, logistics, pipeline etc. In case of Gas fuel, a Gas Sale Agreement (GSA) signed between the applicant and Gas Supplier;
- (x) Supply voltage (11 KV/132 KV), in case of 132 KV voltage distance and name of nearest grid (Single line diagram);
- (xi) Plant characteristics: generation voltage, frequency, power factor, automatic generation control, ramping rate, alternative fuel, time(s)required to synchronize to grid;
- (xii) Provision of Metering, Instrumentation, Protection and Control arrangement.]<sup>2</sup>

(6) Schedule III to these regulations sets out, by way of illustration, the technical, financial and other information the documents-in-support may contain, provided that the contents of Schedule III shall not constitute an exhaustive list of the information which may be provided by the applicant either of his own volition or on the direction of the Authority.

(7) Notwithstanding the provisions of sub-regulation (5) and (6), the Authority may require the applicant to provide further information or furnish any other document-in-support at the time of the submission of the application or at any stage thereafter.

4. **Unincorporated applicants.**— An applicant, not being a company registered under the Ordinance, seeking exemption from the Authority pursuant to and for the purposes of section 24 of the Act, shall add a document-in-support setting out the grounds on which the exemption is sought.

5. **Eligibility criteria.**— (1) The Authority may, in considering an application for the grant of a licence, take into account such factors as may be deemed relevant by the Authority, including the following:

- (a) business experience of the applicant, its management staff, sub-contractors, engineering and technical staff in the electric power industry, if any;
- (b) financial status of the applicant;
- (c) the ability of the applicant to comply with the conditions of the licence;

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<sup>2</sup> Added by S.R.O. 1198(I)/2008 dated 17<sup>th</sup> November 2008.

- (d) technology, technical specifications, model, design, operational characteristics and economic life of the facility or the system;
- (e) the ability of the applicant, the facility or the system in respect of synchronous operation in co-ordination with other licensees;
- (f) the ability of the applicant to comply with prudent utility practices, the grid code, the distribution code or the uniform industry standards and codes of conduct; and
- (g) project milestones and evidence of capability to achieve such milestones and expressions of interest of contractors, financial institutions or the suppliers, as the case may be.

(2) Notwithstanding the applicant meeting the eligibility criteria, the Authority may decline to issue a licence if the Authority determines in writing that:

- a) the investments associated with the facility or system are not justifiable in view of the needs of the electric power industry or where the applicant has failed to demonstrate, in the opinion of the Authority, the existence of the demand for the proposed facility or system;
- b) the plant and capacity requirements of the electric power industry do not warrant the installation of additional plant or capacity or warrant the installation of plant or capacity with technical, financial or other characteristics different from the ones specified in the licence application;
- c) among competing applicants, another applicant qualifies better in terms of quality of equipment, plant, service and the corresponding economy of costs; or
- d) the site proposed by the applicant is not suitable on environmental, social or other grounds.

6. **Application procedure.**— (1) An application shall be submitted to the Registrar, who shall ensure that the application is submitted in accordance with regulation 3, that all the relevant information in the application form is provided, that all the documents-in-support and the application fee are duly attached and, upon being satisfied of the matters aforesaid, the registrar shall forthwith:

- (a) allot a registration number to the application; and
- (b) forward the application to the Authority for a decision on admission of the application.

(2) In case of the application being incomplete in any respect, the registrar shall notify the applicant with directions to furnish the required information or documents-in-support within seven days of the receipt of such notice by the applicant.

7. **Admission of application.**— (1) Subject to the provisions of sub-regulation (2), within three days of the receipt of the application by the Authority from the Registrar pursuant to sub-regulation (1)(b) of regulation 6, the Authority shall review the application and shall make a decision as to whether the application should be admitted for consideration by the Authority.

(2) The Authority may require further information or documents-in-support from the applicant for the purpose of a decision on admission of the application and:

- (a) a request for further information or documents-in-support shall be dispatched no later than the third day of the receipt of the application by the Authority from the Registrar; and
- (b) the applicant shall provide the requested information or documents-in-support within seven days of the receipt of the request in this regard from the Authority,

provided that, the Authority may extend the time for submission of the information or the documents-in-support for a further period not exceeding fourteen days.

(3) The Authority may:

- (a) if the form and content of the application are in substantial compliance with regulation 3, admit the application; and
- (b) if the form and content of the application do not substantially comply with regulation 3, and the applicant fails to comply with the request for further information and documents-in-support in the manner and within the time limit provided in sub-regulation (2), reject the application.

8. **Advertisement.**— Within three days of the admission of the application by the Authority, the Registrar shall cause to be published, in one English and one Urdu daily newspapers with circulation in the entire country:

- (a) the prospectus;
- (b) a notice to the general public of the admission of the application;
- (c) an invitation to the general public to submit their comments to the Registrar within a period of fourteen days from the date of the publication; and
- (d) such other information as the Authority may from time to time direct.

9. **Consideration of application.**— (1) The Registrar shall place the application, along with comments, if any, received from the public pursuant to regulation 8, before the Authority no later than three days after the last date for receipt of the comments from the public.

(2) Notwithstanding the provisions of regulation 8, the Authority may invite any person to provide comments or otherwise assist the Authority in the consideration of the application.

(3) In the event the Authority intends to reject an application, it may allow an opportunity to the applicant to make a representation before it as to why the application should not be rejected and, upon being notified of such opportunity, the applicant may make a representation within a period not exceeding fourteen days following the receipt of the afore-said notice from the Authority.

(4) Subject to the provisions of sub-regulation (5), the Authority shall decide the application within twenty eight days after the date the application, along with the comments received from the public, is placed before the Authority pursuant to sub-regulation (1), provided that the time taken, if any, by the applicant in making a representation before the Authority in terms of sub-regulation (3) shall be excluded from the afore-said period of twenty eight days.

(5) The decision by the Authority to grant a licence shall be without prejudice to the power of the Authority to defer the issuance of the licence until such time the provisions of the licence are settled by the Authority, and the Authority may refuse to issue the licence in the event the licensee fails, within the time stated in this respect by the Authority, to agree to the terms and conditions of the proposed licence.

(6) Subject to the applicable provisions of the Act and the rules and regulations made pursuant thereto in this regard, the grant of a licence for any purpose shall not in any way hinder or restrict the grant of a licence to another person within the same territory for a like purpose.

### **PART III**

10. **Modification to the licence.**— (1) Subject to the provisions of sub-regulation (15), the Authority may, at any time during the term of a licence, communicate to the licensee an Authority proposed modification setting out:

- (a) the text of the proposed modification; and
- (b) a statement of the reasons in support of the modification.

(2) Subject to the provisions of sub-regulation (15), a licensee may, at any time during the term of his licence, communicate to the Authority a licensee proposed modification setting out:

- (a) the text of the proposed modification;
- (b) a statement of the reasons in support of the modification; and
- (c) a statement of the impact on the tariff, quality of service and the performance by the licensee of its obligations under the licence.

(3) In case of a licensee proposed modification, the licensee shall pay to the Authority at the time of submission of the licensee proposed modification to the registrar, a non-refundable fee calculated in accordance with the provisions of Schedule II for the modification of the licence.

(4) Within seven days of:

- (a) the receipt of a licensee proposed modification by the registrar; or
- (b) the date the Authority proposed modification is forwarded to the licensee,

the registrar shall publish the Authority proposed modification or the licensee proposed modification, as the case may be, in one English and one Urdu daily newspaper, inviting comments from the public within a period of fourteen days of the date of publication.

(5) The Authority may modify a licence in accordance with an Authority proposed modification or a licensee proposed modification, subject to and in accordance with such further changes as the Authority may deem fit if, in the opinion of the Authority, such modification:

- (a) does not adversely affect the performance by the licensee of its obligations;
- (b) does not cause the Authority to act or acquiesce in any act or omission of the licensee in a manner contrary to the provisions of the Act or the rules or regulations made pursuant to the Act;
- (c) is or is likely to be beneficial to the consumers;
- (d) is reasonably necessary for the licensee to effectively and efficiently perform its obligations under the licence; and
- (e) is reasonably necessary to ensure the continuous, safe and reliable supply of electric power to the consumers keeping in view the financial and technical viability of the licensee.

(6) If a licensee does not agree to an Authority proposed modification, the Authority shall fix a time, date and place for a public hearing to be held with the licensee no later than fourteen (14) days following the communication of the final refusal of the licensee to agree to the Authority proposed modification or such date as the Authority may determine, not being a date falling prior to the expiry of twenty eight days after the date the Authority proposed modification is forwarded to the licensee.

(7) At the public hearing to be held pursuant to sub-regulation (6), the Authority shall allow the licensee to make out a case against the Authority proposed modification within a period of seven days.

(8) The Authority shall address the licensee's case made out against the Authority proposed modification within a period of seven days after the close of the case made out by the licensee pursuant to sub-regulation (7).

(9) The registrar shall, upon the conclusion of the public hearing in accordance with sub-regulations (6), (7) and (8), cause to be published in one English and one Urdu daily

newspaper, a notice inviting comments from the public in respect of the public hearing within fourteen days of the date of conclusion of the public hearing.

(10) The Authority may extend the time limits provided in this regulation 10, provided that the Authority shall conclude the proceedings and render its decision no later than one hundred twenty days following the earlier of the date of communication of the final refusal of the licensee to agree to the Authority proposed modification or the date determined, if any, by the Authority for the commencement of public hearing under sub-regulation (6).

(11) The Authority may:

- (a) approve, with or without changes, a proposed modification; or
- (b) reject a proposed modification,

in each case for reasons to be recorded in writing taking into account the comments received, if any, from the public pursuant to sub-regulations (4) and (9).

(12) Subject to the provisions of regulation 11, the Authority may call for any information in the possession or control of the licensee or any other person, or may allow the licensee to call for any information available with the Authority or in the possession or control of any other person, which in the opinion of the Authority is material and relevant to the proceedings.

(13) The Authority may declare that the procedure set out in rules 3 through 16 of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998, shall apply to a public hearing ordered to be held pursuant to sub-regulation (6), subject to such modifications, if any, as the Authority may determine in advance of the proceedings, taking into account the complexity of the issues involved, the requirements of the licensee in respect of the details of the procedure and with a preference for an expedited hearing over matters of procedure.

(14) The Authority may determine that an Authority Proposed modification or a licensee proposed modification, the principal object of which relates to the tariff, shall be initiated and determined pursuant to and in accordance with the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998, whereupon such Authority proposed modification or the licensee proposed modification shall be initiated as a petition pursuant to the afore-mentioned rules.

(15) Neither the Authority nor a licensee shall propose an Authority proposed modification or a licensee proposed modification and no licence shall be modified before the expiry of three hundred sixty five days following the date of issue of the licence.

(16) Notwithstanding any thing to the contrary stated in this regulation 10, an Authority proposed modification or a licensee proposed modification may be withdrawn by the Authority or the licensee, as the case may be, at any time prior to the commencement of a public hearing pursuant to sub-regulation (6).

(17) Where a licence is modified, the Authority shall cause to be published, in one English and one Urdu newspaper, the substance of the modification in such form and content as may be determined by the Authority.

#### **PART IV**

11. **Confidentiality.**— In any application, document-in-support or information required to be furnished under these regulations, the applicant or the licensee may, as the case may be, request the Authority to permit the applicant or the licensee to withhold information the disclosure of which may materially and adversely affect the commercial interests of the applicant or the licensee, or in respect of which the applicant or the licensee is under a contractual or other valid and enforceable obligation of non-disclosure, provided that, the Authority shall have the power to call for review such information in order to determine whether or not to allow the request for confidentiality by the applicant or the licensee.

12. **Amendments.**— The Authority may amend or supplement these regulations from time to time, provided that, such amendments or supplements shall be prospective only and shall not apply in respect of:

- (a) an application already admitted by the Authority; and
- (b) a licensee proposed modification or an Authority proposed modification, which has been communicated to the Authority or the licensee, respectively.

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**SCHEDULE I**

(regulation 3(1))

**FORM OF APPLICATION**

The Registrar

National Electric Power Regulatory Authority

**Subject:** Application for a [GENERATION/TRANSMISSION/SPECIAL PURPOSE TRANSMISSION/DISTRIBUTION] License

I, [NAME, DESIGNATION], being the duly authorized representative of [NAME OF APPLICANT COMPANY] by virtue of [BOARD RESOLUTION/POWER OF ATTORNEY] dated [DATE], hereby apply to the National Electric Power Regulatory Authority for the grant of a [GENERATION/TRANSMISSION/ SPECIAL PURPOSE TRANSMISSION/DISTRIBUTION LICENCE] to the [NAME OF APPLICANT COMPANY] pursuant to section [ ] of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

I certify that the documents-in-support attached with this application are prepared and submitted in conformity with the provisions of the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999, and undertake to abide by the terms and provisions of the above-said regulations. I further undertake and confirm that the information provided in the attached documents-in-support is true and correct to the best of my knowledge and belief.

A [BANK DRAFT/ PAY ORDER] in the sum of Rupees [ ], being the non-refundable licence application fee calculated in accordance with Schedule II to the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999, is also attached herewith.

Date: -----

Signature

[Name, designation]

Company Seal

## SCHEDULE II<sup>3</sup>

(regulations 3(2) and 10(3))

### TABLE OF FEES

#### PART I

MODIFICATION AS PER DECISION R-086-325

Category of licence	Fees (Rs.)
<b>Generation *(1)</b>	
Upto 1 MW	100,000
More than 1 MW upto 10 MW	200,000
More than 10 MW upto 20 MW	300,000
More than 20 MW upto 35 MW	400,000
More than 50 MW upto 100 MW	500,000
More than 100 MW	1,000,000
<b>Transmission</b>	
National Grid co.	500,000
Special Purpose	300,000
<b>Distribution*(2)</b>	
Upto 1 MW	100,000
More than 1 MW upto 2 MW	150,000
More than 2 MW upto 5 MW	400,000
More than 5 MW upto 10 MW	600,000
More than 10 MW upto 20 MW	1,200,000
More than 20 MW upto 50 MW	2,000,000
Above 50 MW	2,500,000

*Note \*(1)* MW Capacity in case of Generation facility shall mean the ISO Gross Capacity as mentioned in the application.

*\*(2)* MW Capacity in case of Distribution facility shall mean either (a) 85% of the accumulated installed or expected to be installed Transformation Capacity as mentioned in the application or (b) 0.019% of the annual expected sales in MWh as mentioned in the application.

<sup>3</sup> Sub. by S.R.O. 1198(I)/2008 dated 17<sup>th</sup> November 2008.

## PART II

### INDEXATION OF FEES

1 The licence application and modification fee payable by an applicant or the licensee, as the case may be, shall be indexed to the Consumer Price Index ("CPI") published from time to time by the Federal Bureau of Statistics.

2 The indexation shall be done on the basis of the most recent CPI prevailing on the date of payment of the licence application fee or the modification fee, as the case may be, and the fee payable on the date of payment shall be increased or decreased, as the case may be, in accordance with the following formula:

$$F_{pd} = F_t \left[ \frac{CPI_{pd}}{CPI_{rd}} \right]$$

Where

$F_{pd}$  = The actual fee payable on the date of payment.

$F_t$  = The respective fee set out in Part I of this Schedule II.

$CPI_{pd}$  = The most recent CPI prevalent on the last day of the month immediately preceding the month in which the application or the modification proposal is made.

$CPI_{rd}$  = [The reference or base CPI as on September, 2008.]<sup>4</sup>

## **SCHEDULE III**

(regulation 3(6))

### 1. GENERATION

#### (a) NEW GENERATION FACILITIES (Thermal)

1. Location (location maps, site map), land
2. Technology, size of the plant, number of units
3. Fuel: type, imported/indigenous, supplier, logistics, pipeline etc.
4. Emission values
5. Cooling water source: tube wells, sea/river/canal, distance from source, etc.
6. Interconnection with national grid company, distance and name of nearest grid, voltage level (single line diagram)
6. Infrastructure: roads, rail, staff colony, amenities
7. Project cost, information regarding sources and amounts of equity and debt
8. Project commencement and completion schedule with milestones

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<sup>4</sup> Sub. for "The reference or base CPI, prevalent on the last day of the month in which the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999, are notified in the official gazette" by the S.R.O. 1198(I)/2008 dated 17<sup>th</sup> November 2008.

9. ESSA (Environmental and Social Soundness Assessment)
10. Safety plans, emergency plans
11. System studies: load flow, short circuit, stability, reliability
12. Plant characteristics: generation voltage, frequency, power factor, automatic generation control, ramping rate, alternative fuel, auxiliary consumption, time(s) required to synchronize to grid
13. Control, metering, instrumentation and protection
14. Training and development
15. Feasibility report

(b) EXISTING GENERATION FACILITIES (Thermal)

1. Location (location maps, site map)
2. Technology, number of units
3. Fuel: type, imported/indigenous, supplier, logistics, pipeline etc.
4. Emission values
5. Cooling water source: tube wells, sea/river/canal
6. Interconnection with national grid company: distance and name of nearest grid, voltage level (single line diagram)
7. Installed capacity, derated capacity, expected remaining life  
Due diligence report
8. Rehabilitation plans, previous rehabilitation programme
9. Operational record including environmental monitoring data for the last five years, constraints in dispatching
10. Project cost, information regarding sources and amounts of equity and debt
11. Plant characteristics: generation voltage, frequency, power factor, automatic generation control, ramping rate, alternative fuel, auxiliary consumption, time(s) required to synchronize to grid
12. Training and development

(c) NEW GENERATION FACILITIES (Hydel)

1. Location (location maps, site map), land
2. Plant: run of the river, storage, veir
3. Head: minimum, maximum
4. Technology: Francis, Pelton, etc. size, number of units
5. Tunnel (if proposed): length, diameter
6. ESSA
7. Detailed feasibility report
8. Resettlement issues
9. Consents
10. Infrastructure development
11. Interconnection with national grid company, length of transmission line(s)
12. Project cost, information regarding sources and amounts of equity and debt
13. Project schedule, expected life
14. Peaking/base load operation
15. Plant characteristics: generation voltage, power factor, frequency, automatic generation

- control, ramping rate, control metering and instrumentation
- 16. System studies load flow, short circuit, stability
- 17. Training and development

(d) EXISTING GENERATION FACILITIES (Hydel)

- 1. Location (location maps, site map)
- 2. Plant: run of the river, storage, weir
- 3. Head: minimum, maximum
- 4. Technology: Francis, Pelton, etc. size, number of units
- 5. Tunnel(s) if existing: length, diameter
- 6. Due diligence report, expected life
- 7. Rehabilitation plan, previous rehabilitation programmes
- 8. Operations record for the last five years, operation constraints
- 9. Consents
- 10. Interconnection with national grid company, length of transmission line(s)
- 11. Peaking/base load operation
- 12. Plant characteristics: generation voltage, power factor, frequency, automatic generation control, ramping rate, control metering and instrumentation
- 13. Training and development

**B. TRANSMISSION**

(a) EXISTING TRANSMISSION FACILITIES

- 1. Network configuration
- 2. Territory maps
- 3. Voltage levels
- 4. System statistics, system development, line lengths, technical parameters for transmission lines and grid stations, etc.
- 5. Central and regional dispatch facilities, connection facilities
- 6. Interface nodes with generation entities
- 7. Interface nodes with distribution entities.
- 8. Dispatch procedures, software, hardware information
- 9. Emergency provisions, blackout restoration procedures
- 10. Safety provisions
- 11. Operations record, operational constraints
- 12. Due diligence report
- 13. Training and development

(b) SPECIAL PURPOSE TRANSMISSION FACILITIES.

- 1. Purpose
- 2. Line route and territory maps
- 3. Line lengths, starting point, termination point, year of completion
- 4. System studies
- 5. ESSA

6. Structures: type, number/km
7. Line characteristics
8. Conductor, type, current carrying capacity, circuit power transfer
9. Insulators
10. Shield-wire: number, size
11. Compensation employed: series, Shunt, SVC
12. Communication system: PLC, fibre optics, microwave
13. Grid station(s) involved: number, existing/new and details of the following:
  - Scope, size, number of transmission circuits, in and out
  - Type: indoor/outdoor, transformation/switching
  - Arrangement scheme: breaker and a half, double bus
  - Basic insulation level: kV
  - Control and protection system
  - Specification of equipment : breakers-type, re-closing mechanism, duty cycle etc. isolators, transformers-type, size, cooling system, tap-changer, and protection
  - Lightning arresters, shunt reactors, metering and instrumentation
  - SCADA and communication

### **C. DISTRIBUTION**

1. Distribution system configuration, service territory, right of way, feeder maps
2. Voltage levels, regulation
3. Type of distribution system
4. Line equipment characteristics
5. Power quality control
6. Back-up/express feeder provision
7. Accident protection/ prevention procedures
8. Maintenance plans and procedures
9. Fault location/trouble-shooting procedures
10. Emergency provisions
11. Patrolling and inspection procedures
12. Customer service data/manuals
13. Billing and collection procedures
14. Protection, control and measuring instruments
15. Metering and testing facilities
16. Communication systems
17. Training and development

MAJ. GEN. (R) MUHAMMAD HASAN AQEEL,  
Secretary, National Electric Power Regulatory  
Authority

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