



GOVERNMENT OF THE PUNJAB



Punjab Power Generation Policy

**Year 2006
Revised in 2009**





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FOREWORD

Electricity plays a vital role in the growth of a nation's economy. In 1958, the Water and Power Development Authority (WAPDA) was established with the responsibility to implement major projects in the power sector as well as to maintain and operate these.

Electricity demand in the country is increasing at a fast pace of 8-10% per annum. The power demand of Pakistan has been anticipated to be 101,478 MW by the year 2030 which will be about 500% of the demand in the financial year 2007-08. Such enormous growth requires huge financial resources and decentralized infrastructure. For this purpose WAPDA's infrastructure is being converted into private generation, transmission and distribution companies. In addition, the Government of Pakistan (GOP) has set up the Private Power Infrastructure Board (PPIB) for the implementation of power generation projects in the private sector and the National Electric Power Regulatory Authority (NEPRA) to regulate tariffs and to safeguard the interests of sellers, purchasers and users of power.

The provincial governments have also been authorized under the Constitution of Pakistan to undertake activities in the power sector. As such, the Government of the Punjab set up the Punjab Power Development Board (PPDB) in 1995 for implementation of power generation projects through one window operation. In 2000, WAPDA assessed hydro power generation potential of 600 MW at 317 locations in Punjab. WAPDA also noted the presence of other available resources for the development of power projects based on indigenous fuel such as coal, biomass, wind and solar. To exploit this potential, the Government of the Punjab framed the "**Punjab Power Generation Policy - Year 2006**" (Policy) for implementation through PPDB. The fiscal and financial incentives/concessions outlined in this Policy are in line with the GOP Policy for development of power projects. The Policy has been revised to provide adequate framework for development of power projects on fast track basis and to incorporate the amendments introduced by Federal Government in the Policy for Power Generation Projects, 2002.

As power development is a subject of concern to both the Federal Government as well as the Provincial Governments, PPDB will have the responsibility of liaising with PPIB on related matters, with NEPRA on power regulation issues, and with NTDC and DISCOs in the Punjab in relation to the sale and purchase of power.

The Government of the Punjab therefore invites investors to participate in power development activities and to invest in the power sector by setting up power generation projects. The Government of the Punjab assures all investors of the maximum possible support.



ABBREVIATIONS

AJK	Azad Jammu and Kashmir	
BOO	Build-Own-Operate	(Appendix – 1)
BOOT	Build-Own-Operate-Transfer	(Appendix – 1)
CB	Competitive Bidding	
CBR	Central Board of Revenue	
COD	Commercial Operation Date	
CPP	Capacity Purchase Price	
CSA	Coal Supply Agreement	
DISCO	Power Distribution Company	
EIRR	Economic Internal Rate of Return	
EOI	Expression Of Interest	
EPP	Energy Purchase Price	
FBS	Federal Bureau of Statistics	
FIRR	Financial Internal Rate of Return	
FSA	Fuel Supply Agreement	
GOP	Government of Pakistan	
GOPunjab	Government of the Punjab	
GSA	Gas Supply Agreement	
IA	Implementation Agreement	
ICB	International Competitive Bidding	
IPP	Independent Power Producer	
KESC	Karachi Electric Supply Corporation	
KV	Kilo Volt	
KW	Kilo Watt	
KWh	Kilo Watt Hour	
LOI	Letter of Interest	
LOS	Letter of Support	
MW	Mega Watt	
NBP	National Bank of Pakistan	
NEPRA	National Electric Power Regulatory Authority	
NTDC	National Transmission and Despatch Company	
PEPA	Pakistan Environmental Protection Agency	
POE	Panel of Experts	



ABBREVIATIONS

Policy	Punjab Power Generation Policy – Year 2005
Punjab-EPA	Punjab Environment Protection Agency
PPA	Power Purchase Agreement
PPDB	Punjab Power Development Board
PPIB	Private Power and Infrastructure Board
PPC	Private Power Cell
PQD	Prequalification Documents
RFP	Request for Proposals
Rs	Pakistan Rupee
SECP	Securities and Exchange Commission of Pakistan
SPP	Small Power Producer
SRO	Statutory Rules and Orders
TFC	Term Finance Certificate
US\$	United States Dollar
WAPDA	Water and Power Development Authority
WPI	Wholesale Price Index
WUA	Water Use Agreement
WUL	Water Use License



1. INTRODUCTION

1. The 2002 Power Generation Policy of the Government of Pakistan allows provinces of Pakistan and AJK to develop power generation projects of sufficient capacity in public and/or private sectors at the least cost to utilize the available natural resources for power generation and to avoid capacity shortfall. This Policy has therefore been framed by the Government of the Punjab to attract investors to develop and implement power generation projects up to maximum capacity of 50 MW.



Deregulated hydel
Generation is on
high agenda of
Punjab

2. Electricity is one of the most important components of infrastructure and plays a key role in national development and economic growth. To make power available in all areas and sectors, the Government of the Punjab approved the establishment of PPDB in 1995. PPDB has been given the mandate to implement power generation projects in the private sector through the utilization of the water resources of canals/rivers and other resources based on indigenous fuel like oil, gas, coal, bagasse as well as wind and solar energy, wherever economically available.

3. The increased availability of electric power to a population of 140.5 million (as assessed in the 2001 census), shall generate industrial growth, uplift the economy and society, and also lead to improvement in urbanized areas.

4. The expansion of power infrastructure through the intervention of the private sector shall also relieve other entities from unsatisfactory performance and shall give rise to additional production and economic growth which in turn shall eliminate the problems of a limited budget in this sector. The subsidies and cross-subsidies in the tariff shall gradually decrease and the tariff shall therefore ultimately be free from any such influence. As a consequence of this economic stimulus, resource mobilization shall also be increased which shall further initiate a cycle of growing financial returns.

In Punjab, only half of the population has access to the electricity. Dense population provides attractive base for appropriate power expansion.

1.1 Structure of the Power Sector

5. In Pakistan, the following power utilities in the public and private sectors are providing the necessary services to the population.
 - Pakistan Water and Power Development Authority (WAPDA), which has been unbundled into Power Distribution Companies (DISCOs), National Transmission and Dispatch Co. Ltd (NTDC) and Generation Companies (GENCOs), and which is in the process of being privatized in accordance with the policy of the Government of Pakistan.



- ▶ Karachi Electric Supply Corporation (KESC), which already stood privatized.
- ▶ Pakistan Atomic Energy Commission (PAEC)
- ▶ Independent Power Producers (IPPs)

Out of the total generation capacity of about 19,920 MW in the country, 11,284 MW is owned by WAPDA hydel and GENCOs, 1,756 MW by KESC, 462 MW by PAEC, 285 MW by Rental and 6,133 MW by IPPs.

WAPDA supplies power to all of Pakistan except the metropolitan city of Karachi, for which KESC is the main source of supply. The transmission system of WAPDA and KESC is interconnected through 220kV double circuit transmission line, which is primarily to allow WAPDA to meet the deficit of power supply in the Karachi area. A new 500 / 220 KV interconnection with KESC for supply from HUBCO 500KV line has also been completed.

6. According to the latest load forecast, the projected load growth by 2030 will be 101478 MW, while the load forecast up to year 2010 for Punjab Province is about 13,500 MW. This load growth requires a proper expanded generation plan to meet the shortfall. The Punjab has sufficient resources to generate about 600 MW from 317 hydel locations. This potential is in addition to other options available for thermal generation based on indigenous fuel such as coal, biomass and gas etc. There is an estimated coal reserves of 235 million tons located in districts Chakwal, Jhelum, Khushab and Mianwali in Punjab. Coal quality is sub-bituminous type having calorific value of 7000 to 12000 BTU and is suitable for power generation.
7. The Government of the Punjab set up the Punjab Power Development Board (PPDB) in 1995 to utilize both hydel and thermal power sources to supplement available source so as to meet power demands. To achieve its objective, PPDB shall process and ensure implementation of power generation projects in liaison with PPIB and DISCOS / NTDC. PPDB shall liaise with other agencies to ensure the inter-transfer of information and data related to load growth and of the respective plans to meet it.

1.1.1 RESTRUCTURING OF POWER WING OF WAPDA

WAPDA Role in the

Punjab

- ▶ Northern Power Generation Company NPGCL
- ▶ WAPDA Hydel Power Stations
- ▶ National Transmission and Despatch Company (NTDC)
- ▶ Power Distribution Companies (DISCOs)

8. WAPDA was established in 1958 under an act to develop irrigation schemes, water supply, drainage and flood-control, power generation, transmission and distribution of power.

WAPDA owns 11,284 MW power generation capacities in the form of hydel and thermal generation units, as well as a power network of 4200 km of 500 kV lines and 6100 km of 220 kV lines with an overall system transformation capacity of about 39000 MVA for a customer base of over 13.5 million.

9. WAPDA is in the transitional stages of restructuring and privatization. In the first phase, the following transformations have been incorporated through



the unbundling of WAPDA's power wing:-

- i. All the Area Electricity Boards have been converted into Power Distribution Companies (DISCOs) namely PESCO, TESCO, IESCO, GEPCO, LESCO, FESCO, MEPCO, HESCO and QESCO with their headquarters at Peshawar, Islamabad, Gujranwala, Lahore, Faisalabad, Multan, Hyderabad and Quetta respectively.
- ii. The thermal generation set up has been converted into four generation companies (GENCOs). These are named Northern, Central, Jamshoro & Lakhra Power Generation Companies.
- iii. The National Transmission and Despatch Company (NTDC) has been incorporated to undertake the transmission and transformation of power through a network comprising of 500kV / 220kV transmission lines. The 132kV transmission lines and 132kV transformation within the areas of the DISCOs have been transferred to the respective DISCOs for overall planning, operation and maintenance. NTDC will also sell power from hydel and thermal generating stations to the DISCOs.

1.1.2 Power Structure in the Punjab Province

10. The power structure in the Punjab which belonged previously to the Power Wing of WAPDA is now managed by five power distribution companies (DISCOs) namely, LESCO, GEPCO, FESCO, MEPCO and IESCO. Power is supplied by the National Transmission and Despatch Company (NTDC) to each of these DISCOs at 132 kV under specific tariffs which are regulated by NEPRA. This power is received from WAPDA hydel stations, thermal power stations from GENCOs, PAEC and IPPs out of the pooled NTDC grid network. The power requirements of the Province will be supplemented through the hydel & thermal generation which is to be developed under the Policy.
11. The National Transmission and Despatch Company (NTDC) is a newly created company which has been carved out of what used to be the Power Wing of WAPDA. NTDC is responsible for maintenance and operation of a high tension network of 500 KV & 220 KV grid stations and transmission lines and the 132KV inter-connections. NTDC receives power from all the hydel/thermal power generating stations and supplies power to all the DISCOs.
12. The Northern Power Generation Company Limited (NPGCL), supplies power to the NTDC grid network from its steam power station Muzaffargarh, NGPS Multan, STPS Faisalabad, and GTPS Faisalabad while WAPDA hydel power stations supply power from hydel stations at Chichoki Mallian



(13MW), Nandipur (13MW), Shadiwal(14MW), Rasul (22MW), Renala (1MW), Low-Head Chashma (184MW) and Ghazi Barotha (1450MW).

13. The other power generating sources in the province are Pakistan Atomic Energy Commission (PAEC) and Independent Power Producers (IPPs). These are also connected to the NTDC network. Certain small power producers are also engaged in the sale and generation of power to a limited extent.

1.1.3 Power Regulatory Environment

<p>NEPRA For Protection of Interests of the Consumers and Power Companies</p>
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14. The objective of the current power regulatory environment is to promote fair competition in the electricity industry. To protect the rights of consumers as well as the producers and sellers of electricity, the Government of Pakistan has enacted the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997) (NEPRA Act). The NEPRA Act extends to the whole of Pakistan. Under the NEPRA Act, the National Electric Power Regulatory Authority (NEPRA) has been established with various powers and functions.

15. Powers and functions of NEPRA

- i. NEPRA is exclusively responsible for the following:
- ▶ Regulating the provision of electric power services;
 - ▶ Granting licenses for generation, transmission and distribution of electric power;
 - ▶ Prescribing procedures and standards for investment programs by generation, transmission and distribution companies;
 - ▶ Prescribing and enforcing performance standards for generation, transmission and distribution companies;
 - ▶ Establishing a uniform system of accounts for generation, transmission and distribution companies;
 - ▶ Prescribing fees including fees for grant of licenses and renewal thereof;
 - ▶ Prescribing fines for contravention of the provision of this Act;
 - ▶ Performing any other function which is incidental or consequential to any of the aforesaid functions;
 - ▶ Determining tariff, rates, charges and other terms and conditions for supply of electric power services by the generation, transmission and distribution companies and



recommending to the Federal Government for notification;

- ▶ Reviewing the organizational structures of generation, transmission and distribution companies to avoid any adverse effect on the operation of electric power services and for continuous and efficient supply of such services;
- ▶ Encouraging uniform industry standards and code of conduct for generation, transmission and distribution companies;
- ▶ Giving advice to public sector projects;
- ▶ Submitting reports to the Federal Government with respect to the activities of generation, transmission and distribution companies; and
- ▶ Performing any other function which is incidental or consequential to any of the aforesaid functions.

- ii. The NEPRA Act explicitly provides that notwithstanding anything contained in the Act, the Government of a Province may construct power houses and grid stations and lay transmission lines for use within the Province and determine the tariff for distribution of electricity within the Province.
- iii. Before approving the tariff for the supply of electric power by generation companies using hydro-electric plants, NEPRA is required to consider the recommendations of the Government of the Province in which such generation facility is located.
- iv. In performing its functions under this Act, NEPRA is required, as far as practicable, to protect the interests of consumers and companies providing electric power services in accordance with guidelines, not inconsistent with the provisions of the NEPRA Act, laid down by the Federal Government.

1.2 Exercising of Powers under the Constitution

16. The Constitution of the Islamic Republic of Pakistan provides that provinces may construct power houses and grid-stations and lay transmission-lines for use within the province, and also that they may, in such instances, determine the tariff for distribution of electricity within the Province.

The Province of Punjab is bestowed with natural resources like water, gas and coal which can be used for power generation and its transmission/distribution. To avail these resources and to provide additional power in the province, the Government of the Punjab has decided to allow the



generation and sale of power as follows:-

- Generation and distribution of power by individual sponsors as Small Power Producers (SPPs). Some of these projects have already been completed and are in operation, selling power to one or more bulk consumers.
- Power generation at “solicited sites”.
- Power generation at “raw sites”

1.3 Transition Period

17. The power generation and distribution in the province of the Punjab in the private sector will be an evolutionary process through the establishment of competitive electricity industry under the privatization policy of the GOP. Along with the privatization process, the provincial government will undertake active solicitation of offers to build new generating plants, selling power under contracts to public sector utilities including the assigned DISCOs, NTDC or the legal assigns/successors of the public sector utilities as required under the NEPRA Act.

1.4 Requirement of Future Generation Capacity

18. Presently, the combined generation capacity available in both the public and private sector is barely sufficient to meet the power demand up to the year 2006. As such, additional power generation is necessary to meet load growth requirements from year 2008 onwards.
19. In view of the long lead-time required to bring new hydel power plants in the power system, the work on the new power Generation projects has to be started hence forthwith. It is, therefore, the intention of the Government of Punjab:-
- i. To solicit bids for Power Generation projects, for which feasibility studies are already available;
 - ii. To initiate feasibility study work on raw sites for exploiting available hydel, oil, gas, coal, bagasse, solar and wind potential; and,
20. WAPDA has prepared a Hydropower Development Plan - Vision 2025. This plan intends to meet the upcoming deficits through additional hydel power generation. The plan has been updated to classify consolidated list of potential projects that are to be implemented in the short, medium and long terms.

The identified projects will be implemented by the public sector, the private sector, or through public-private partnerships. The choice of implementing projects at these platforms will depend upon the urgency of meeting the power demand as well as the availability of resources.



1.5 Objectives of the Power Generation Policy

21. The main objectives of this Policy are:-
- To provide adequate power generation capacity at the least cost.
 - To encourage and ensure exploitation of indigenous fuel (oil/gas/coal/biomass) and hydel resources for development of thermal or hydel Power Generation projects in the Punjab Province. Utilization of wind and solar energy for power generation shall be encouraged.
 - To promote indigenization.
 - To encourage the local engineering industry to form joint ventures with foreign companies for participation in the development of the Power Generation projects.
 - To protect the environment.

1.6 Scope of the Power Generation Policy

22. The Power Generation Policy covers the development and implementation of power generation projects in:
- ▶ the private sector;
 - ▶ the public sector; and
 - ▶ through public-private partnerships

1.7 Features of the Power Generation Policy

23. Where feasibility studies have already been conducted, the implementation of new Power Generation projects will be processed as solicited proposals. Where no feasibility studies have been conducted or initiated, projects will be analyzed as raw site proposals.
- (a) Solicited proposals will be processed for selection of the successful bidders on the basis of minimum levelized tariff through competitive bidding. Variable tariff over the life of the project will be permitted under the terms specified in the Request for Proposal (RFP). The process of selection will require pre-qualification, issuance of RFP, bidding and evaluation in accordance with the bidding criteria clearly laid down in the RFP.
 - (b) Raw site proposals shall be offered to the pre-qualified sponsor. The sponsor shall conduct the feasibility study at his own cost and submit it to the Punjab Power Development Board (PPDB) for approval. The successful sponsor will be selected after the approval of the feasibility study and negotiation of the tariff thereafter. If there



is more than one sponsor for a raw site proposal, each sponsor will submit Pre-Qualification Documents (PQD) for the project on intimation from PPDB. The PQDs will be evaluated by PPDB and an LOI will be issued to the qualifying sponsor after submission of the bank guarantee of the specified amount in favor of PPDB.

24. It is recognized that without a proper feasibility study for a particular site-specific hydel or other indigenous fuel resources project, it will not be possible to invite competitive bids and receive firm offers. Thus detailed feasibility studies for such projects will be carried out by the public/private sector before bids are invited and a Letter of Support (LOS) issued. The feasibility study by the private sector may be conducted by the private sector on raw sites, only after the proposal from the sponsors for the projects has been reviewed/accepted and a Letter of Interest (LOI) has been issued against submission of the required bank guarantee.

The feasibility studies shall contain, inter alia, a detailed economic and financial assessment of the proposed project which takes into consideration all benefit and cost streams associated with the project. While the economic analysis may be conducted from the perspective of the net benefits to the national economy, the financial evaluation shall be carried out from the project sponsor's point of view. Key determining factors for a project's viability, from both the perspectives, would be Economic and Financial Internal Rates of Return i.e. EIRR and FIRR. In order to qualify for consideration by the PPDB, a raw site project's EIRR and FIRR shall at least be equal to 12% in real terms. With the purpose of conducting technical audit of the project sponsors' calculation, it shall be mandatory for the project sponsors to provide soft copies of their techno-economic and techno-financial computer models to PPDB along with the hard and soft copies of the feasibility studies.

25. Hydel projects in the private sector will be implemented on a Build-Own-Operate-Transfer (BOOT) basis. The concession period for hydel projects shall be up to 30 years. Thermal projects in the private sector, however, may be established on either a BOOT basis or on a Build-Own-Operate (BOO) basis. The decision in this regard will be made on a case-to-case basis. Projects established on a BOOT basis shall be transferred to the Government of the Punjab for a notional value of Rs. 1 at the end of a concession period allowed by PPDB from the Commercial Operation Date (COD).
26. Competitive or negotiated tariffs will comprise of a Energy Purchase Price (EPP) and a Capacity Purchase Price (CPP) with adequate provision for escalation. The CPP for the Hydel Project will comprise of fixed expenses



(i.e. Fixed O&M, Debt Repayment, Insurance and Return on Equity) but with maximum of 95% of the levelized tariff and remaining will be EPP component covering Variable O&M and Water Use Charges. This will also mitigate any hydrological risk as per Paras 95 and 96 hereafter.

CPP for thermal projects will be different for different type of fuel i.e. oil, gas, coal, bagasse, solar, wind or any other indigenous fuel.

27. PPDB may assist the sponsors in finalization of the security agreements as may be required under the policy.
28. Power generation companies will be allowed to import plant and equipment that are not manufactured locally at concessionary rates made available under any federal law and applicable to the projects to be developed under the Policy. However, there will be no exemption from payment of income tax on oil-fired power plants.
29. To promote indigenization, the local engineering industry shall be encouraged to form joint ventures with foreign companies for participation in the development of the generation projects.

2. INSTITUTIONAL ARRANGEMENTS

2.1 National Electric Power Regulatory Authority (NEPRA)

30. While performing its functions under the NEPRA Act, NEPRA shall, as far as practicable, protect the interests of consumers and companies providing electric power services in accordance with the guidelines laid down in the Act. NEPRA Rules and Regulations will be followed for tariff determination and approval in respect of both solicited sites and raw site projects to be developed and implemented in the Punjab as under :-
 - i) In the case of a raw site project, after approval of the feasibility study, the sponsor will initiate and negotiate the tariff with the DISCO / NTDC for application and for seeking NEPRA's approval of the proposed power acquisition contract as power purchaser in terms of NEPRA's Interim Power Acquisition (Procedure and Standards) Regulations, 2005.
 - ii) In case of a solicited site project, the above procedure will be followed by the successful sponsor and power purchaser based on the tariff approved in the process of competitive bidding and after issuance of the LOS by the PPDB).
31. NEPRA will grant a license to the applicant company for generation, transmission and distribution of electric power and also regulate the company's operations according to applicable NEPRA rules and regulations.



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32. The applicant company will be required to comply with all NEPRA rules/procedures, inter alia, for grant of license before security agreements are concluded for any project.

2.2 Punjab Power Development Board (PPDB)

33. The Punjab Power Development Board (PPDB) set up in 1995 by the Government of the Punjab under the chairmanship of the Chief Minister of the Punjab will overview and supervise the power generation projects in liaison with PPIB and DISCOs / NTDC.
34. PPDB will constitute a committee under Secretary Irrigation and Power Punjab as convener comprising of a representative from Finance Division not below the rank of Additional Secretary, a representative from P & D Department not below the rank of Chief of the concerned section, a representative from NTDC / concerned DISCO not below the rank of Chief Engineer and Managing Director of the Board. The PPDB committee shall process and evaluate all the proposals related to development of Power Generation projects and shall submit its recommendations to the PPDB Board for approval and further processing.
35. PPDB will provide one-window support to IPPs and assist in ensuring that the concerned agencies make timely decisions with respect to related matters.

The PPDB will:-

- Facilitate the implementation of power generation projects and power distribution arrangements, in case of power sale to a private sector;
- Pre-qualify the sponsors both in case of raw site projects or solicited site projects;
- Evaluate the bids of pre-qualified sponsors and issue Letters of Interest and Letters of Support to the successful sponsors;
- Assist the sponsor / project company in seeking necessary consents / permissions from various governmental agencies;
- Negotiate the implementation agreements (IAs), assist in the negotiations relating to the water use licences (WULs), and assist the power producer, fuel supplier and provincial authorities in the negotiations, execution and administration of other agreements such as the PPA, the FSA/ GSA/CSA and the WUL;
- Co-ordinate with Federal Government agencies and DISCOs / NTDC for development of the power generation projects;
- Follow up and assist in the implementation and monitoring of



projects; and,

- Take up such other matters as may be required for the promotion of power generation projects in the province.

3. SOLICITED PROPOSALS

3.1 Schedule

36. The feasibility reports shall need to be obtained from the PPDB (on payment of such fees or amounts as may be specified by PPDB).
37. A typical schedule to conduct competitive bidding for a private Power Generation project with capacity up to 50 MW, is presented as follows:-

Sr. No.	Activity	Typical Time Allowed (days)
(a)	Pre-qualification for specific projects. PPDB will invite Sponsors for registration and for collection of pre-qualification documents through the press Submission of pre-qualification documents	30
(c)	Evaluation of pre-qualification documents and notification to pre-qualified bidders by PPDB	30
(d)	PPDB's invitation for bids to pre-qualified bidders and collection of bidding documents by pre-qualified bidders	15
(e)	Time allowed for submission of bids to PPDB together with bid bond and evaluation fee in favour of PPDB	90
(f)	Evaluation of bids, selection of preferred bidder, approval of PPDB Board Tariff determination by NEPRA	60 60
(g)	Submission of Performance Guarantee by Sponsors @ US\$ 5000 (or equivalent Pak. Rs.) per MW in favour of PPDB after approval of tariff	10
(h)	Issuance of LOS by PPDB	10

38. The above time schedule is an indicative for solicited hydel projects only. A specific schedule will be circulated for other solicited projects as part of the RFP for each project on the recommendations of Board Committee defined in para 34.



3.2 Pre-Qualification

39. Bids will only be considered from bidders who comply with at least the following conditions:-
- a) Single sponsor or joint sponsors in case of a consortium will have at least a 51 % stake in the equity and will have direct and relevant experience of, and capability in, the successful development or implementation or ownership or operation of projects of similar magnitude. The lead member in case of consortium designated as the 'Main Sponsor', will hold at least a 20 % stake in the equity of the project.
 - b) Demonstrated capability for financing (equity and debt) or arranging finance, for projects of similar size.

3.3 Lock-in-Period

40. The Sponsor identified as the "Main Sponsor" in the application for pre-qualification, having a lead role and possessing sufficient financial strength, will be required to hold at least 20% of the equity of the project company during the "lock-in period" which will be from the LOS issuance date until the sixth anniversary of the successful commissioning of the plant. The pre-qualified sponsors must together hold 51% of the equity for the same period.

3.4 Request for Proposals (RFP)

41. The RFP for Power Generation Projects with capacity up to 50 MW is likely to specify the following, or as deemed appropriate, for each project offered for Competitive Bidding (CB) / International Competitive Bidding (ICB):-
- (a) Type of Project
 - (b) Net capacity (MW)
 - (c) Reference annual plant factor (%)
 - (d) Transmission arrangements including the point of delivery to the Power Purchaser
 - (e) Terms of Power Purchase Agreement
 - (f) Specific allowances for scheduled maintenance and excused forced outages
 - (g) Cooperation arrangements/agreement with local engineering companies, if any
 - (h) Evaluation criteria
 - (i) Tariff, including:





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- ▶ Limitations on Front-end loading
 - ▶ Limitations on proportion of capacity charge to overall tariff
 - ▶ Reference date (s) for indexation, which would be 30 days prior to the bid submission deadline, unless specified otherwise
 - ▶ Fuel price and indexation mechanism, if required.
 - ▶ Matching of debt-related capacity charge stream with loan repayment stream
 - ▶ Sum of energy charge and non-debt-related capacity charge to be 'constant' or 'increasing' during the term
 - ▶ Water Use Charge (in case of hydel projects).
 - ▶ Concession Period to be specified by Sponsor
42. The level and mode of bidding (whether ICB or CB) shall be determined by PPDB on case to case basis. The following documents will also be included in the RFP:-
- (a) Instructions to bidders
 - (b) General provisions for bidders
 - (c) Minimum technical standards
 - (d) Standardized forms for NEPRA's tariff determination, if available
 - (e) Feasibility study of the project
 - (f) Copies of relevant standard security package agreements and documents i.e. LOS, IA, PPA, WUL / FSA / GSA / CSA (as applicable) etc.
 - (g) Environmental laws, rules, procedures and guidelines of the Pakistan Environmental Protection Agency (PEPA) and Punjab Environmental Protection Agency (Punjab-EPA)
43. If necessary, pre-bid conferences will be held to facilitate exchange of information with bidders in a transparent manner, giving equal and adequate opportunity to all prospective bidders.

3.5 Evaluation of Bids

44. Bids will be opened on the prescribed date in the presence of bidders' representatives who choose to attend the bid opening.
45. A party or a group which is already in possession of a valid LOS issued by the PPDB shall submit the proposed tariff within 30 days to PPDB for negotiation. In case of non-compliance or failure in the negotiation, the project shall be included in the CB / ICB category project. In such case, if the LOS holder desires to participate in the bidding, he shall be allowed to



do so on revalidation of his originally submitted bank guarantee for that project. In case, the existing LOS holder's bid does not fulfill the above criteria, that LOS will become null and void while the project concession will be awarded to the lowest bidder.

46. Detailed evaluation criteria will be given in the RFP. Evaluation of Power Generation projects will be on the basis of levelized tariff calculated at 10% discount rate over the term of the project, on the basis of average hydrology or as otherwise specified in the RFP at an annual reference plant factor and within the prescribed levels of front-end loading.

47. The bid with the lowest evaluated levelized tariff will be ranked as Number 1. PPDB Board will reserve the right to reject any or all bids without assigning any reason thereof, and will not assume any liabilities or claims of compensation in connection therewith. Once the bid along with the tariff is finally



accepted by PPDB Board, the successful bidder will be issued an LOS by PPDB against the delivery of a Performance Guarantee in favor of PPDB in the required amount (which performance guarantee shall be valid up to three months beyond the date of financial close date specified in the LOS), and upon the payment of the cost of the feasibility study to PPDB. Under normal circumstances, no extension in achieving the financial closing will be granted except on the Sponsors' written request.

However, if the Committee referred to in terms of Section 2.2 para 34, is satisfied that delays in achieving financial close are due to factors beyond the reasonable control of the Sponsors and that financial close can be achieved shortly, a one-time extension of up to a maximum period of six months will be given on formal approval of PPDB Board. The extension in financial close will only be permitted if the validity period of the Performance Guarantee is extended for another nine (9) months (i.e. three months beyond the expiry date of the extended LOS), if the amount of the performance guarantee is increased by 100%, and if the doubled performance guarantee is provided at such point prior to the expiration of the original LOS as may be stipulated by the Committee.

48. In case of more than one bidder for a particular site, the debt-related costs of all bidders shall be brought to an even keel through calculation of the IRRs of each project including the withholding tax and any other financing charges associated with each type of loan.



4. PROPOSALS ON RAW SITES

4.1 Submission of Proposals

49. The proposals for raw sites regarding hydel, indigenous fuel and other renewable resources based projects with a capacity of up to 50 MW will be submitted to PPDB. Sponsors – whether single companies or consortiums, with or without a foreign investor – wishing to undertake projects at the raw sites, must submit detailed proposals to PPDB, which include at least the following information:-

- (a) Project name/identification
- (b) Project location
- (c) Proposed capacity and plant factor
- (d) Basic outline of structures and plant
- (e) Summary programme indicating specific milestones and completion date of the feasibility study
- (f) Pre-qualification details as required under Section 4.2 here above for the proposed Sponsors
- (g) Previous history of the project / proposal, etc.
- (h) In case, more than one candidate are interested to carry out feasibility studies on any one raw site, PPDB will invite the highest ranked pre-qualified sponsor to carryout the proposed feasibility study.
- (i) In case of thermal power project based on gas & oil, no proposal shall be entertained without the approval of Government of Pakistan.



Raw Sites

The sites for which feasibility studies are not available and which could be developed for power generation. LOI will require sponsors to carry out a complete feasibility study to be monitored by Panel of Experts

50. Proposals on raw sites will be examined by the Committee under Secretary Irrigation & Power referred to in section 2.2 para 34. The bidder whose proposal is approved by the Committee or in case of more than one sponsor for a project, the one that acquires the 1st ranked position in terms of Section 1.7 para 24, will be processed for issuance of an LOI by PPDB.



4.2 Letter of Interest (LOI)

51. PPDB shall invite Expressions of Interest (EOI) through advertisement in the press for hydel and coal raw sites projects and will issue pre-qualification documents to the sponsors on cost basis. The sponsor who submits the best proposal as decided by PPDB Board will be issued LOI for feasibility study. However, no proposals for thermal power projects based on oil and gas will be entertained by PPDB without the approval of Government of Pakistan. The sponsors willing to install power projects based on wind, solar and bio-mass may submit their proposal for issuance of pre-qualification documents. All proposals shall be processed and evaluated by the committee defined in para 34 here above and its recommendations shall be placed before the PPDB Board. After approval of the PPDB Board, the sponsors will be intimated in writing by PPDB with respect to the approval of the proposals and simultaneously demand submission of a bank guarantee in favour of PPDB of the value of US\$1000 per MW valid for a period which shall be a minimum of six months more than the period of validity of the LOI.

Initial validity of the LOI will be up to 9 months. In the case of any delay in the completion of the feasibility study, the sponsors may apply to the PPDB in writing for an extension of the validity period of the LOI. If the Panel of Experts (POE) appointed by the PPDB is satisfied that the Sponsor's progress during conduct of the feasibility study is satisfactory and that the feasibility study is likely to be completed shortly, a one-time extension may be granted by the PPDB on the recommendations of the committee referred to in Section 2.2 para 34 up to a maximum period of 90 days.

No extension in the validity period of an LOI shall be granted unless the Sponsor(s) submit a bank guarantee in favour of PPDB for double the original amount of the bank guarantee, which guarantee must be valid for a minimum period of 180 days more than the validity period (as extended) of the LOI. The doubled bank guarantee must also be provided at such point prior to the expiration of the original LOI as may be stipulated by the committee.

52. The LOI will require the Sponsors to carry out a complete feasibility study to be monitored by the POE. The Sponsors will have to meet the standards and milestones stipulated in the LOI. If the POE confirms that the Sponsors have failed to meet the relevant milestones/standards, PPDB will terminate the LOI and en-cash the bank guarantee. The Sponsors will have no claim for compensation against the Government of Punjab in such case.
53. On completion, the feasibility study will be reviewed by the POE. If the feasibility study is approved, the Sponsors will be allowed to negotiate a



tariff with the power purchaser within the prescribed period given in time schedule

4.3 Negotiations on Tariff

54. PPDB will be notified by the power producer in case of successful tariff negotiation between the power purchaser and the sponsors. The levelized tariff for the purpose shall be calculated at 12 % discount rate over the term of the project as per para 48 here above. The sponsor will file the application with PPDB for tariff approval in case of power sale to any private bulk power purchaser. However, for sale to any DISCO, the concerned DISCO will file their application for tariff approval to NEPRA. After approval by NEPRA, PPDB will issue the Letter of Support (LOS) against delivery of the performance guarantee of the value of US Dollars 5000 (or equivalent Pak Rs.) per MW in favour of PPDB, valid up to three months beyond the date of financial close specified in the LOS (or as extended).

4.4 Participation in Bidding

55. In case negotiations on tariff between the power purchaser and sponsors of the feasibility study are not successful, or the 90 days negotiation period lapses, the project will be processed as a solicited proposal in accordance with Section 3 here above, except that the sponsors who have conducted the feasibility study on the raw site, will be allowed to participate in the bid without submission of a bid bond and, will be given a chance to undertake the project at the lowest tariff offered during the bidding process. On their refusal, however, PPDB will appoint an independent auditor, and the successful bidder will reimburse the reasonable and independently audited cost of the feasibility study to the initial sponsors before obtaining the LOS.





4.5 Schedule

56. The proposals received for projects up to 50 MW capacity in the manner stated above, or through advertisement of raw sites by the PPDB, shall generally follow the schedule given below:-

Sr. No.	Activity	Typical Time Allowed (days)
(a)	Submission of proposal on raw site by the Sponsors Review of proposal on raw site by the Committee under Secretary Irrigation and Power	60
(c)	Submission of bank guarantee by Sponsors @ US\$ 1,000 per MW or equivalent in Pak Rs. in favour of PPDB	10
(d)	Issuance of the LOI by PPDB	10
(e)	Initial time allowed to carry-out feasibility study/Term of the LOI	9 months. One time extension of 3 months will be allowed subject to submission of double the bank guarantee of the original amount
(f)	Interim tariff negotiations between Sponsors and power purchaser	90
(g)	NEPRA's approval of tariff	60 -180
(h)	Submission to PPDB of approved tariff.	15
(i)	Submission of Performance Guarantee @ US\$ 5000 / MW or equivalent Pak. Rs. by Sponsors in favour of PPDB, after approval of tariff	15
(j)	Issuance of the LOS by PPDB	10

NOTE:

The above time schedule is an indicative for raw hydel projects only. A specific schedule will be circulated for other raw site projects based on other technology on the recommendations of Board Committee defined in para 34.



5. THE IMPLEMENTATION PROCESS

5.1 Fee Structure

57. Fees are to be paid by sponsors/project companies in US Dollars (or equivalent Pak. Rs.) to PPDB. All fees are subject to revision from time to time.

Sr. No.	Fee US\$ *	Remarks
a) Registration	100	PPDB will provide policy brochures upon registration
b) Purchase of Pre-qualification documents	2,000	
c) Bidding		The RFP by pre-qualified bidders shall also include the feasibility study and relevant standard IA, PPA, WUL/WUA agreements etc.
i) Purchase of RFP documents	4,000	
ii) Evaluation		
Up to 5 MW	1,000	
More than 5 and up-to 20 MW	10,000	
More than 20 and up-to 50 MW	15,000	
(d) Legal fees		To be paid by Sponsors — for negotiations or review of other legal matters on the basis of actual expenses plus 20% as ancillary charges. Suitable cap to this expense, however, will be suggested in the RFP

* or the equivalent in Pak Rs.

5.2 Bid Bond, Letter of Support and Performance Guarantee

58. A bid bond of US\$ 1000 (or equivalent Pak. Rs.) per MW will be submitted by each bidder at the time of submission of bids. After selection of the successful bidder, the bid bonds of all bidders other than the Sponsors of the successful bid will be returned, and the successful bidder will be required to post a Performance Guarantee of US\$ 5000 (or equivalent Pak. Rs.) per MW in favor of the PPDB valid initially for a period of three months in excess of validity of the LOS. After submission of the Performance Guarantee by the successful bidder, the bid bond will be returned. The Performance Guarantee will secure the successful bidder's obligation to execute the IA, PPA and other relevant agreements and achieve Financial Closing within the specified time period.
59. The LOS will normally be issued to the successful bidder for a period of 6-9 months (to be specified in the RFP), by which date the sponsors/project



company must achieve Financial Close for the project (as defined in the LOS). The Performance Guarantee shall be in the form of an irrevocable direct-pay letter of credit issued by a bank acceptable to the Government of the Punjab in favor of PPDB. The Performance Guarantee must always remain valid for a period not less than three months in excess of the then-prevailing Financial Close deadline.

60. The Sponsors will have an option to terminate the LOS and any of the project agreements executed at any time before the required date for Financial Close as per terms and conditions of LOS. The termination option may be exercised by foregoing a portion of the Performance Guarantee equal to the face value of the Performance Guarantee multiplied by the number of months since the issuance of the LOS (rounded up to the next whole number) divided by the total number of months allowed in the LOS to achieve Financial Close.
61. The Performance Guarantee will be encashable on call by PPDB. Neither the Sponsors nor the project company shall have any claims against the Government of the Punjab or any of its components/organizations/institutions on any ground(s) whatsoever. Until financial close is reached, the LOS will govern the project and supersede all documents and agreements; thereafter the security agreements will supersede the LOS. If the LOS expires on account of failure to achieve financial close, the IA, PPA and WUL / GSA / FSA / CSA and all other agreements with any governmental entity, will automatically terminate.

5.3 Project Implementation

62. The successful bidder will be required to submit to PPDB, as per a format specified by PPDB, a mutually acceptable implementation schedule with specific milestones for monitoring progress. PPDB and the power purchaser will require the successful bidder/sponsor to submit periodic progress reports regarding the status of contractual obligations, consents, financial and physical progress reports including summary table showing progress towards achievement of such milestones.

Delays in achieving Financial Close due to events beyond control of the successful bidder/sponsor will be accommodated through day-to-day extension allowed under the IA. Similarly, delays in achieving the Commercial Operation Date (as defined in the PPA) of the power complex, will incur liquidated damages as specified in the PPA. Equitable compensation against parties concerned may be specified in the IA / PPA for not meeting specified milestones under the security agreements.



6. SALE OF POWER

63. The power generated will be sold in order of priority to power purchasers in one of the following three modes or combination of more than one of the modes.

6.1 Sale to Distribution Company (DISCO)

64. The power generated will be delivered to the nearest grid station of DISCO when feasible in accordance with PPA between sponsor and concerned DISCO. The transmission line from the company's outgoing gantry and the interconnection will be constructed by the concerned DISCO. "It may be understood by the prospective investors that the purchase of power from IPPs will no more remain a government concern after restructuring of WAPDA into independent corporate entities. In future the purchase of power would be at their discretion of the distribution company (or companies) – DISCOs - and bulk consumers to reduce their purchase cost or to fulfill their increased power demand. Similarly DISCOs' purchasing power will endeavor to follow the principle of Least Cost Generation Expansion Plan to fulfill the increase in its system demand".

6.2 Sale to Industrial Estate as Bulk Consumer

65. The power generated may be delivered to the industrial estates in the vicinity of power plants where the power will be delivered to the purchaser(s) directly as bulk supply. The power purchasers will, under the requisite license from NEPRA, construct transmission lines from the sponsors outgoing gantries and interconnection at their premises for drawing the power. Design of the lines and interconnection will be as per standards adopted by the DISCO / NTDC to ensure uniformity within the existing system. It may be understood by the Private power producer that:
- (a) If the industrial estate falls in the exclusive service territory of a DISCO, the above arrangement would require consent from the concerned DISCO for surrendering the relevant part of its exclusive territory in favor of the industrial estate.
- (b) The bulk consumer may have to arrange adequate alternate back up in order to take care of the seasonal variation of the hydel power capacity of the captive power plant for meeting the demand without load-shedding.

6.3 Sale Exclusive for an Industry or for any other Special Purpose

66. (a) The power may be sold to single purchasers for their exclusive use. The power purchaser will construct the lines connecting the sponsor's outgoing gantries with their interconnections, as per standard designs/instructions adopted by DISCOs to ensure uniformity of the power system. The seller shall hold a license from NEPRA allowing construction, maintenance and operation of the power system.
- (b) The Power generated may be sold in bulk to any Cooperative, who will opt for the local distribution of power to the villages, urban and rural areas for



domestic or commercial purposes. The Cooperative, as licensee from NEPRA for construction, maintenance and operation of the power system, will construct transmission line from the power house out-going gantries for drawing the power. Design of the line and interconnections will be as per standards adopted by the DISCO having jurisdiction over the area of the Cooperative. It will, however, be mandatory to obtain consent of the DISCO to surrender exclusive territory if this cooperative sells power to other consumers.

(c) The sites where the power generated could not be possibly connected to any part of national grid or sold out to any DISCO, Cooperative, Industry or to any other entity, the Sponsor at his sole discretion will be allowed by PPDB, to carry out local distribution of power to the villages, urban and rural areas for domestic or commercial purposes. The sites would be identified before issuance of LOI. In such cases, the Sponsor will be allowed to propose a supply and demand based tariff, and obtain NEPRA's approval. The Sponsor, as licensee of NEPRA for construction, maintenance and operation of the power system, will construct transmission lines for distribution of power to the premises of end users.

Obligations, of DISCO foreseen in its distribution license have to be kept in view by the supplier and the purchaser.

7. USE OF LAND OWNED BY PUNJAB IRRIGATION AND POWER DEPARTMENT

67. The currently available low head hydropower sites are mostly on canal falls. On both sides of canals, the land to the extent of right of way is property of the Irrigation & Power Department, Government of Punjab. As discussed below, the powerhouse, headrace and tailrace may be constructed on the land owned by Irrigation and Power Department, Government of the Punjab. The following alternatives are recommended for compensating Irrigation and Power Department.

7.1 Alternate-I : Lease of Irrigation Land

68. The land for the project will be leased out to the sponsors either through bilateral agreement between the parties or through any other mechanism for an initial period of 30 years based on the prices prevailing in the area of the project. The Irrigation and Power Department may further extend the lease period for the remaining life of the project if required as per terms & conditions of the agreement.

7.2 Alternate-II : Equity Participation

69. Instead of charging lease amount, the Irrigation and Power Department, Government of the Punjab may hold a percentage of equity proportionate to the amount of lease charges of the project's concession period. This arrangement will be subject to an agreement between the sponsors and the Irrigation and Power Department.



8. TARIFFS

8.1 Point of Delivery

70. The power tariff payable under the PPA will be quoted at the point of delivery indicated in the RFP. The delivery point will either be the bus bar of the power plant or a specific location on the grid of the power purchaser, depending upon one of the following options specified in the RFP:
- The transmission line from the IPP outgoing gantry up to the delivery point including the interconnection will be built, owned, maintained and operated by the power purchaser. In this case, the power tariff will be the 'bid and paid for' energy and net capacity delivered at the outgoing gantry of the power plant.
 - The transmission line from the IPP outgoing gantry including the interconnection shall be built by the power purchaser at the cost of the IPP. The power purchaser shall maintain and operate the transmission line and the interconnection. In this case, the power tariff will be the 'bid and paid for' energy and net capacity delivered at the IPP outgoing gantry. The total financial cost on this account will be payable to the IPP on the basis of negotiation between these two parties.
 - Any other arrangement different from the above, subject to mutual agreement between the sponsor(s) of the project and power purchaser on the approved tariff of energy and capacity.

8.2 Tariff Structure

8.2.1 Currency of Tariff

71. The tariff will be denominated in Pakistan Rupees.

8.2.2 Capacity and Energy Components

72. Bidders will be asked to quote their tariff in two parts:

- Energy Purchase Price (EPP)
- Capacity Purchase Price (CPP).



73. The RFP may specify a maximum percentage of the overall tariff for the capacity component. The CPP in case of hydel projects, for both solicited site as well as raw site project, will comprise of fixed expenses (i.e. Fixed O&M, Debt Repayment, Insurance and Return on Equity) but with maximum limit of 95% of the levelized tariff and the remaining will be the EPP covering Variable O&M and Water Use Charge.



74. For projects requiring substantial investment in dedicated production and/or transportation facilities for indigenous fuel, expenses would be accounted for in the power tariff in the form of capacity and energy charges.
75. The CPP will be expressed in Rs/kW/month and the EPP in Rs/kWh.
76. The CPP will be paid provided the plant is available for dispatch as per standards defined in the PPA. The EPP will be paid based upon the amount of kWh of energy dispatched.
77. The generation company shall negotiate the tariff with the power purchasers and shall specify the modes mentioned in section 6.1 to 6.3 for supply, in the application to NEPRA for approval of the tariff and for obtaining the license from NEPRA.
78. In order to ensure the sustained interest of the sponsor during the entire life of the project, the sum of EPP and non-debt related CPP (computed on a kWh basis at the reference plant factor specified in the RFP) will remain constant or increase over time. The debt-related CPP stream may match the loan repayment stream.

8.2.3 Water Use Charges

79. The EPP will include the Water Use Charges and these charges shall be paid by the generation company to the Govt. of Punjab for use of the water for generation of electricity. The water use charges shall be fixed at the rate of Rs. 0.15/kwh subject to annual adjustability. The water use charges shall be a pass-through item to the power purchaser.

8.2.4 Exchange Rate Variations

80. Bidders may include components in the CPP and the EPP which are subject to adjustment only for variations in the exchange rate between the Pakistan Rupee and the foreign currencies (US Dollar, Euro, Pound Sterling and Japanese Yen) between the reference date and the date of payment such that:
 - (i) At COD, the capital cost be fixed in US Dollars based on actual currencies of EPC Contract accepted by NEPRA at the time of tariff determination, sources of financing, payments and actual exchange rates against rupee for the four currencies (US Dollar, Euro, Pound Sterling and Japanese Yen) on the relevant dates.
 - (ii) O&M costs variations shall be based on exchange rate variation between Pak Rupee and US Dollar.



81. The reference rate for foreign exchange shall be the National Bank of Pakistan (NBP) TT & OD selling rate of the foreign currencies (US Dollar, Euro, Pound Sterling and Japanese Yen) prevailing thirty (30) days before the required date of bid submission. The specific reference date will be stated in the RFP.
82. Adjustment for exchange rate fluctuations will be effected quarterly. Exchange rate fluctuations in excess of 5% during any month will be allowed.

8.2.5 Escalation

83. Escalation for dollar components to cover dollar inflation will not be provided. However, bidders may include components in the EPP and CPP, which are escalable for Pakistan Rupee inflation. Such Pakistan Rupee escalation will be effected from the bid submission date by the Pakistan Wholesale Price Index (WPI) for 'manufacturing' as notified by the GOP's Federal Bureau of Statistics (FBS). The reference value of the WPI for 'manufacturing' will be the most recent value notified (not less than thirty (30) days before the date of submission of the bid) unless notified otherwise in the RFP. The RFP will specify the actual date for this reference value of WPI for 'manufacturing'.
84. The basis for escalation of the Water Use Charge will also be the WPI for 'manufacturing' using the same reference date.
85. Escalation will be effected quarterly except for water use charges.

8.3 Yearly Profile of Tariff

86. All Sponsors would be required to submit yearly tariff profiles in real terms at the time of bidding.

9. FINANCIAL AND FISCAL REGIME

87. The financial and fiscal incentives prescribed by the Government of Pakistan under any Federal law, shall be applicable to the projects to be developed and implemented under this Policy. These will be incorporated in the LOS.
88. PPDB shall assist the sponsors in arranging the financial as well as fiscal incentives as mentioned in para 89 here above from the federally controlled agencies / institutions as may be required to implement the projects under this Policy.
89. The above incentives will be equally applicable to private, public-private and public sector projects.



10. SECURITY PACKAGE

90. The security package for projects up to 50 MW includes the following salient features:-

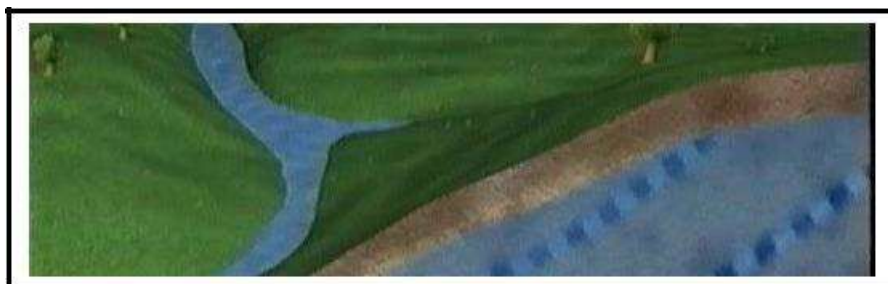
Model IA, PPA, FSA, GSA, CSA and WUL will be provided as applicable for private/public-private partnership Power Generation projects under this Policy to eliminate the need for protracted negotiations. The terms and conditions of the executed agreements shall be guaranteed during the term of the agreements.

The following agencies shall be the executors of the Agreements to cover implementation and operational obligation of the projects:

- i. The Federal Government shall provide guarantee to projects up to 50MW provided that the power purchaser is Federal Entity and tariff is approved the National Electric Power Regulatory Authority (NEPRA)
- ii. Government of the Punjab & project sponsors for IA.
- iii. Concerned power purchaser and project sponsors for PPA.
- iv. Concerned agencies and project sponsors for WUL, FSA, GSA & CSA Agreements (as may be applicable).

11. THE ENVIRONMENT

91. All provisions of the Pakistan Environmental Protection Act 1997 will be followed. The requirements as laid down by Pakistan Environmental Protection Agency (PEPA) and by the Provincial Environmental Protection Agency (Punjab-EPA) relating to National Environmental Quality Standards (NEQS) and Environmental Impact Assessment (EIA) will be met.





12. SPECIFIC PROVISIONS

12.1 Dispatch

92. When the power Generation plants are connected to the 132 KV grid system, the National Power Control Center (NPCC) shall despatch the plants in accordance with the most economical despatch criteria (without any bias) wherever it applies, which will be on the basis of the lowest energy cost component, transmission line losses, system stability and reliability and other considerations. For the plants not connected to the 132 KV grid system of NTDC, the concerned DISCOs shall dispatch the plants through their local Load Despatch Center. However under both the cases, for hydel plants the Power Purchaser shall guarantee the dispatch through take or pay mechanism.

12.2 Feasibility Studies

93. The feasibility studies will identify basic parameters of the hydel and thermal projects, such as, the hydrological characteristics of the site, geological conditions, optimum net capacity, estimated annual plant factor, monthly profile of energy potential, transmission line requirements, identification of power delivery point, interconnection voltage, etc. The transmission voltage shall be 132kV or 11kV depending upon the generation capacity and dispersal to individual or combined modes specified in Section 6.1 to 6.3 respectively.
94. While feasibility studies will be carried out in accordance with internationally acceptable standards, the Government of the Punjab will not guarantee their content or conclusions. The bidder/sponsor will have the right, at its own cost, to examine, evaluate and form its own conclusions on any or all aspects of the feasibility study, and to carry out any additional studies and investigations to make its own assessment about the feasibility and viability of the project.

I. Hydrological Risk

The power purchaser will bear the risk of availability of water for hydel projects with capacity up to 50 MW, by making fixed monthly CPPs comprising the Fixed expenses (i.e. Fixed O&M, Debt Repayment, Insurance and Return on Equity) but with the maximum limit of 95% of the levellized tariff, in accordance with the available plant capacity. The RFP will specify arrangements required to monitor and record water flows.

Sponsors will be asked to quote their plant's generation efficiency curve. If the efficiency of the power plant goes down, or the generation of electricity



is reduced for any reason other than the reduction in water flows, the project company will be liable for the value of the electricity lost due to a fall in efficiency or reduced availability of the power complex. For run of the river projects with storage for daily peaking, specific measures will be specified in the RFP for monitoring plant performance.

13. PUBLIC - PRIVATE PARTNERSHIP

97. The Government of the Punjab encourages establishment of Power Generation projects in public-private partnership. In line with the objectives set forth in Section 1.5 here above, the incentives/concessions available to private Power Generation projects will also be available to projects implemented under public-private partnership. The projects under public private partnership will be implemented under the provision of existing lawas/rules.



**Incentives available to private Power Generation projects
will also be available for projects implemented
under public-private partnership**



Appendix – 1

J. BOOT

Under BOOT regime the 'Loan', 'Equity' and 'Return on Equity' would be paid back within the concession period as capital cost of the project would become zero (0) within the concession period. The project on expiry of concession period and maintained to generate power commensurate with its installed capacity would be transferred to the government against notional cost.

II. BOO

Under BOO regime the total paid back cost would be the 'Loan' and 'Return on Equity' through the tariff while the 'Equity' would stay in the project and thus would remain as the investment asset of the stakeholder at the end of the project life. After concession period the tariff already enunciated in the Agreement would be reworked for a mutually agreed revision or else the Government would be at liberty to decide the fate of such power generation plant including its sale to any other client.



Appendix – 2

COST VARIATIONS (ESCALATION, RESETTLEMENT AND GEOLOGICAL RISK)

ECC of the Cabinet, through its decision dated 23rd May 2007 had *interalia*, decided that:

“NEPRA should stop the practice of accepting EPC costs on the basis of quotations etc. Instead, they should base their determination on firm (non-reopen able) competitive price duly initialed/ signed by the IPP/EPC contractors.”

The Sponsors of Hydel Projects conveyed that it is difficult for them to obtain a firm and final cost for hydropower projects at the feasibility stage due to their site specific nature, geological risk, long construction period and environmental sensitivities, therefore, above mentioned ECC decision is not workable. In order to expedite the implementation of private sector hydropower projects, the ECC through its decision dated 22nd January 2008 decided as under:

“The above decision regarding firm cost may not be applicable to hydropower Projects” and that “Mechanism for determination of tariff for Hydropower Projects shall be issued by NEPRA.”

NEPRA on 18th July 2008 has issued a “Mechanism for Determination of Tariff for Hydropower Projects” allowing the cost variations (Re-Openers) to be adjusted at EPC stage and/or at the Commercial Operation Date (COD). The Re-Openers allowed are as under:

- Cost Variation due to geological conditions, limited to tunnel area;
- Civil works cost escalation, and;
- Resettlement costs.