



National Electric Power Regulatory Authority
Islamic Republic of Pakistan

2nd Floor, OPF Building, G-5/2, Islamabad.
Ph: 9206500, 9207200 Fax : 9210215
E-mail: office@nepra.org.pk

Registrar

No. NEPRA/LAG-91/2265-66

08.05.2007

Director
Atlas Power Ltd.
2nd Floor, Federation House,
Shahra-e-Firdousi, Clifton,
Karachi.

Subject: **Generation Licence No. IGSP/10/2007**
Licence Application No. LAG-91
Atlas Power Ltd. (APL)

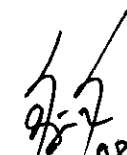
Please refer to your letter No. nil dated 15.01.2007 to NEPRA for a Generation Licence.

2. Enclosed here is Generation Licence No. IGSP/10/2007 granted by the Authority to Atlas Power Ltd. The Licence is granted to you pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997).

3. Please quote above mentioned Generation Licence No. in your future correspondence with the Authority.

DA/as above.




08.05.07.
(Mahjoob Ahmad Mirza)

Copy for information to Director General, Pakistan Environmental Protection Agency, House No. 311, Main Margalla Road, F-11/3, Islamabad.

National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan

GENERATION LICENCE

No. IGSPL/10/2007

In exercise of the Powers conferred upon the National Electric Power Regulatory Authority (NEPRA) under Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997), the Authority hereby grants a Generation Licence to:

ATLAS POWER LIMITED

Incorporated under the Companies Ordinance, 1984
Under Certificate of Incorporation

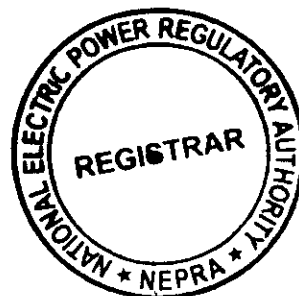
No. 00000013517/20070107, Dated January 5, 2007

For its Plant at 27-KM, Lahore-Sheikhupura Road, District, Sheikhupura, Punjab
(Installed Capacity: 224.35 MW Gross ISO)

to engage in generation business subject to and in accordance with the Articles of this Licence.

Given under my hand this 7th day of MAY, Two Thousand & Seven, and expires on 30th day of MARCH, Two Thousand & THIRTY FOUR.


Registrar





Article-1
Definitions

1.1 In this Licence

- (a) "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997);
- (b) "Authority" means the National Electric Power Regulatory Authority constituted under section 3 of the Act;
- (c) "Licensee" means Atlas Power Limited ;
- (d) "Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000.

1.2 Words and expressions used but not defined herein bear the meaning given thereto in the Act or in the Rules.

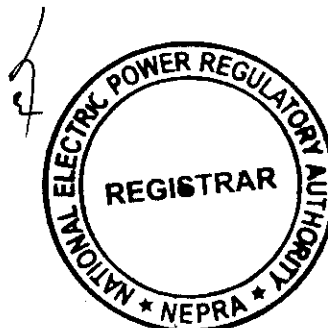
Article-2
Application of Rules

This Licence is issued subject to the provisions of the Rules, as amended from time to time.

Article-3
Generation Facilities

3.1 The location, size (capacity in MW), technology, interconnection arrangements, technical limits, technical functional specifications and other details specific to the power generation facilities of the Licensee are set out in Schedule-I to this Licence.





3.2 The net capacity of the Licensee's generation facilities is set out in Schedule-II hereto.

3.3 The Licensee shall provide the final arrangement, technical and financial specifications and other details specific to generation facilities before commissioning of the generation facilities.

Article-4
Term of Licence

4.1 The Licence is granted for a term of twenty five (25) years after the Commercial Operation Date.

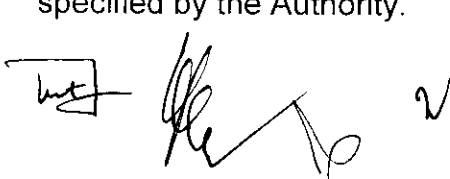
4.2 Unless revoked earlier, the Licensee may ninety days (90) days prior to the expiry of the term of the Licence, apply for renewal of the Licence under the Licensing (Application and Modification Procedures) Regulation, 1999

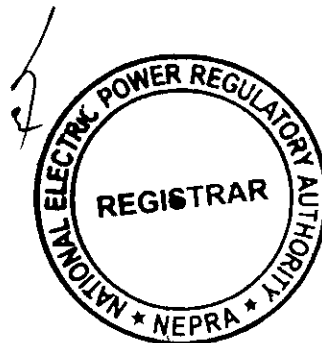
Article-5
Licence fee

After the grant of the Generation Licence, the Licensee shall pay to the Authority the Licence fee, in the amount and manner and at the time set out in National Electric Power Regulatory Authority (Fees) Rules, 2002.

Article-6
Tariff

The Licensee shall charge only such tariff which has been approved or specified by the Authority.





Article-7

Competitive Trading Arrangement

7.1 The Licensee shall participate in such measures as may be directed by the Authority from time to time for development of a Competitive Trading Arrangement. The Licensee shall in good faith work towards implementation and operation of the aforesaid Competitive Trading Arrangement in the manner and time period specified by the Authority. Provided that, any such participation shall be subject to any contract entered between the Licensee and another party with the approval of the Authority.

7.2 Any variation or modification in the above-mentioned contracts for allowing the parties thereto to participate wholly or partially in the Competitive Trading Arrangement shall be subject to mutual agreement of the parties thereto and such terms and conditions as may be approved by the Authority.

Article-8

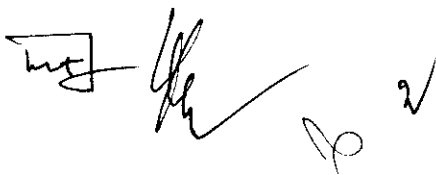
Maintenance of Records

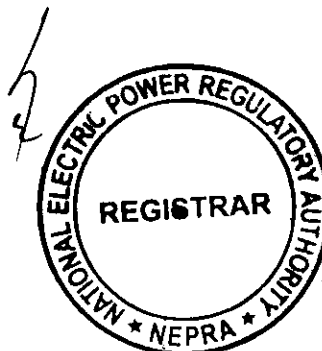
For the purpose of sub-rule (1) of Rule 19 of the Rules, copies of records and data shall be retained in standards and electronic form and all such records and data shall, subject to just claims of confidentiality, be accessible by authorized officers of the Authority.

Article-9

Compliance with Performance Standards

The Licensee shall conform to the relevant NEPRA rules on Performance Standards as may be prescribed by the Authority from time to time.





Article-10

Compliance with Environmental Standards

The Licensee shall conform to the environmental standards as may be prescribed by the relevant competent authority from time to time.

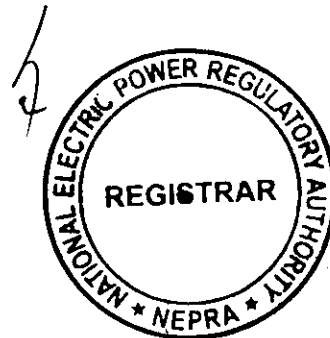
Article-11

Provision of Information

11.1 The obligation of the Licensee to provide information to the Authority shall be in accordance with Section 44 of the Act.

11.2 The Licensee shall be subject to such penalties as may be specified in the relevant rules made by the Authority for failure to furnish such information as may be required from time to time by the Authority and which is or ought to be or have been in the control or possession of the Licensee.

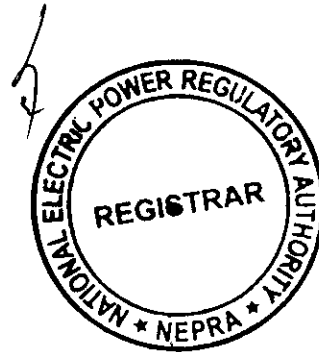
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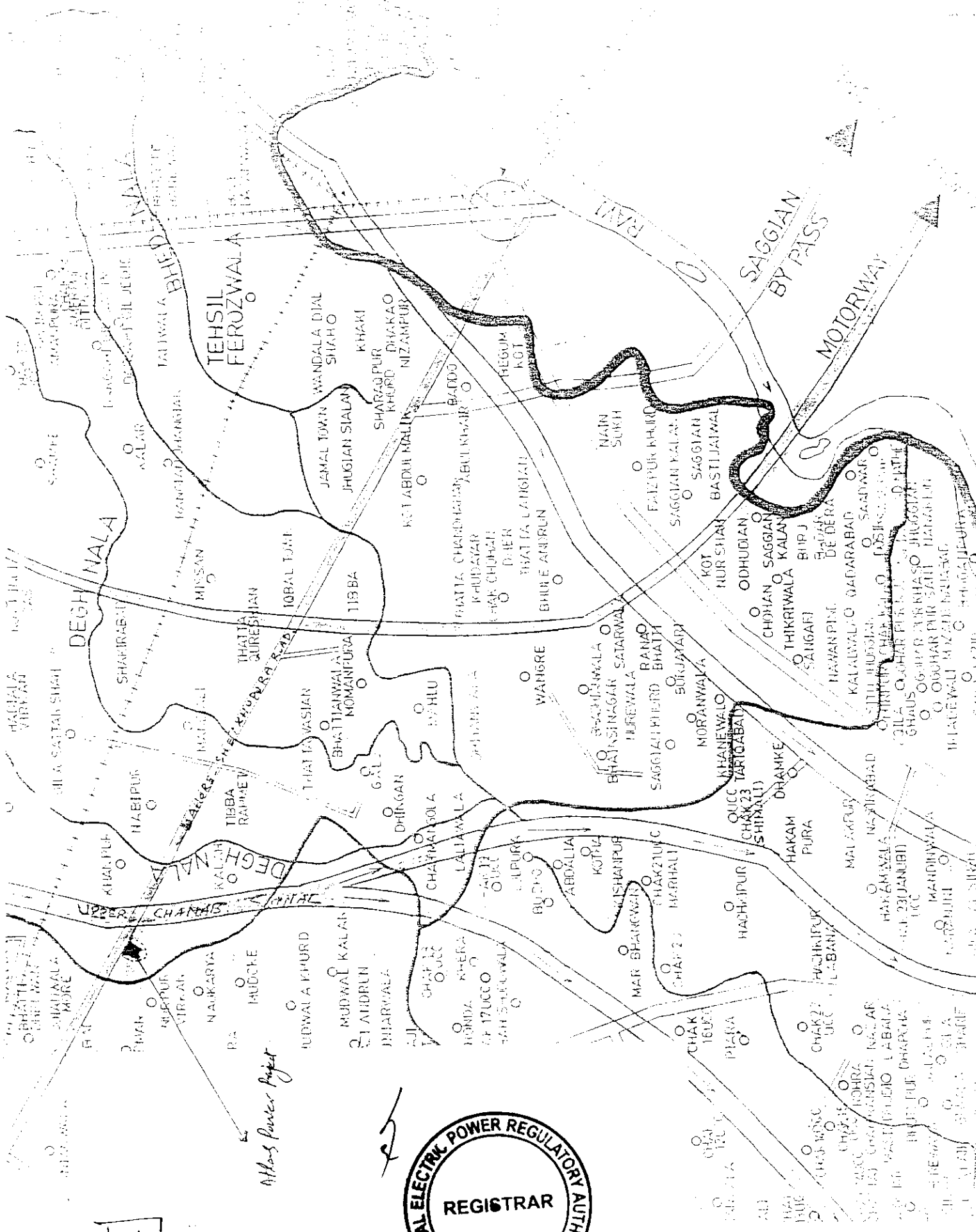


SCHEDULE-I

The location, size (capacity in MW) technology, interconnection arrangements, technical limits, technical functional specifications and other details specific to the Generation Facilities of the Licensee.

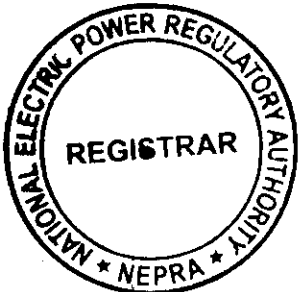
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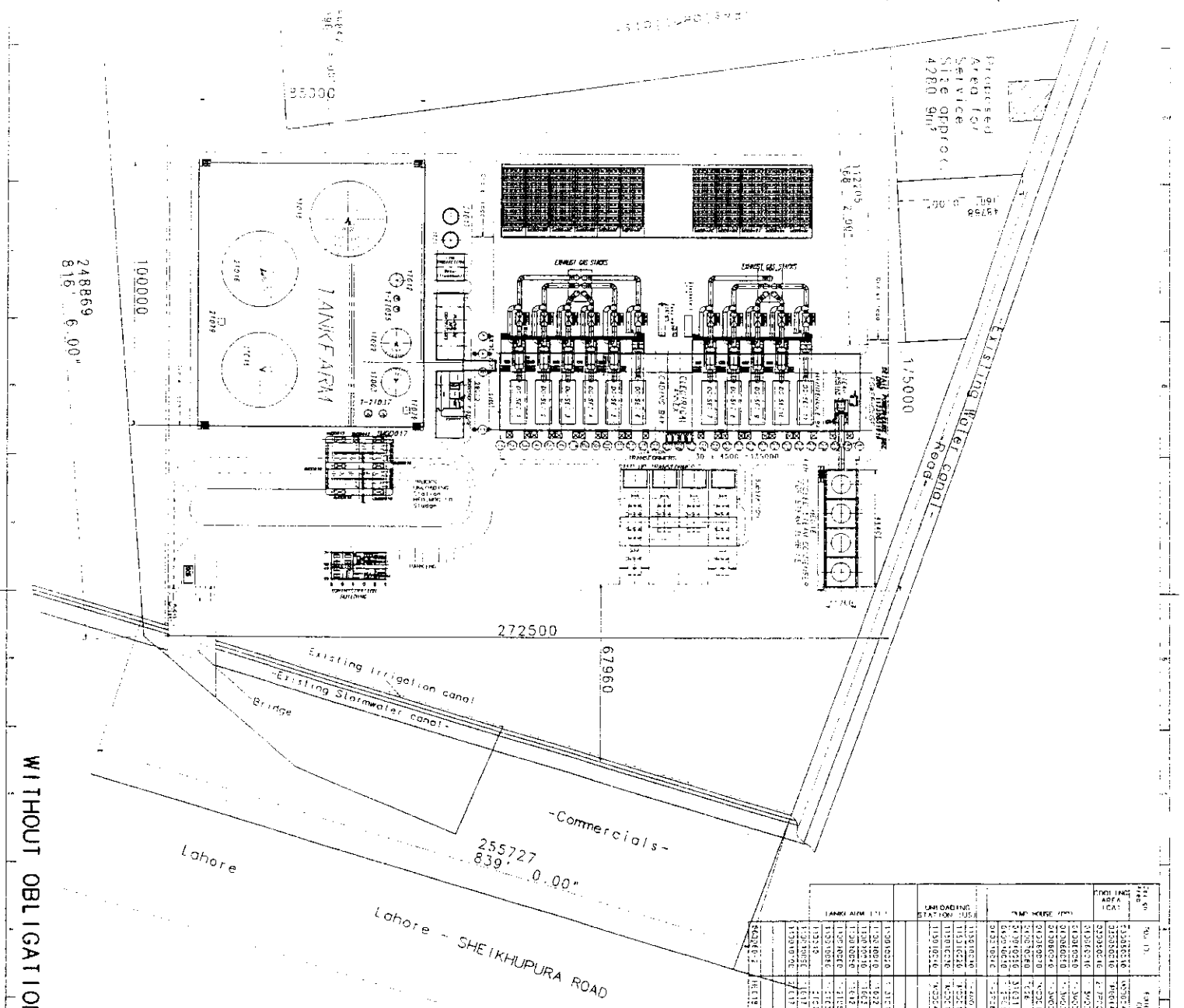




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Alhas Power Project

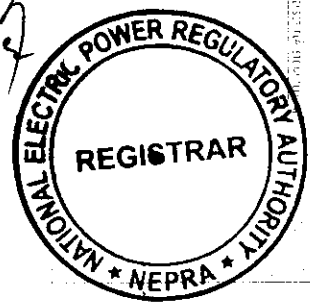




Site plan for
 200 MW
 size project
 4280 MW

No. of	Capacity	Description
1	200 MW	200 MW Power Plant
1	11 x 18V 48/60	11 x 18V 48/60 Radiator Cooling
1	30 Days H ₂ O Storage	30 Days H ₂ O Storage
1	max. steam flow	max. steam flow
1	attached pumps	attached pumps

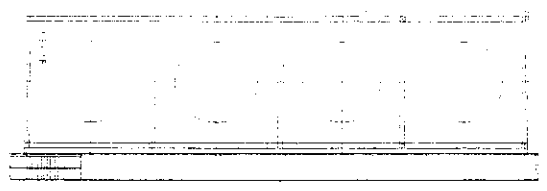
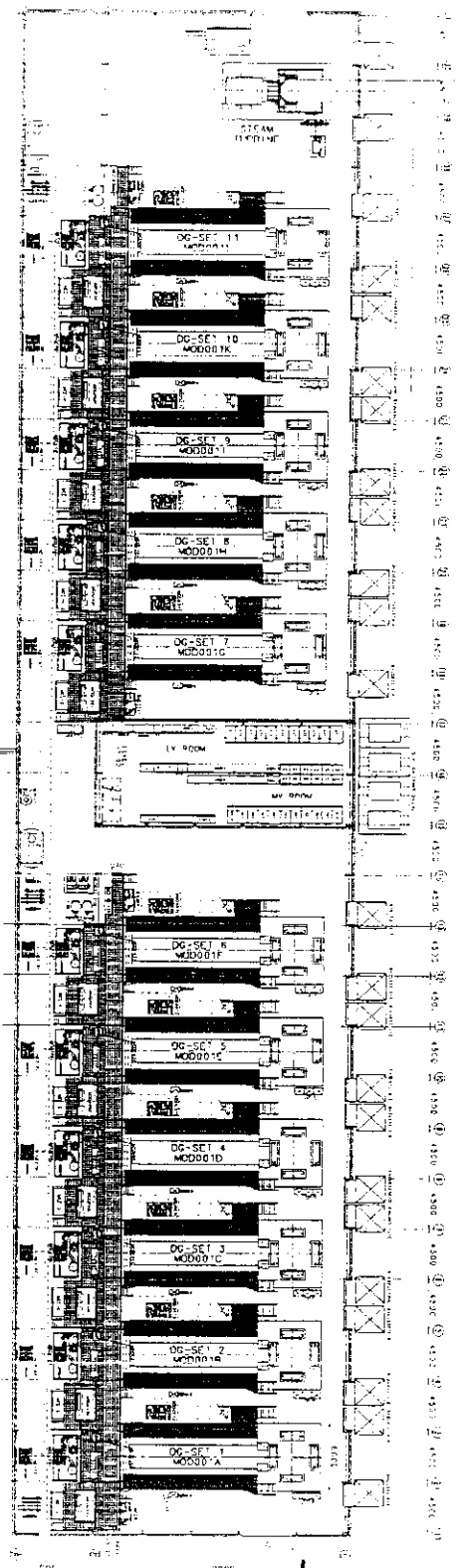
200 MW POWER-PLANT WITH
 11 X 18V 48/60
 + 14, 3MW Steam Turbine
 RADIATOR COOLING
 30 DAYS H₂O STORAGE
 max. steam flow
 attached pumps



WITHOUT OBLIGATION

DATE: 11/13/2001

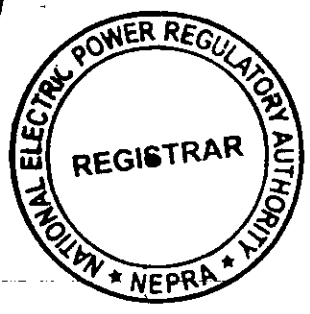
SILE PLAN SLE
 DRW 11/30/01/915



LEVELS: 10.0, 11.70, 11.48, 12.00

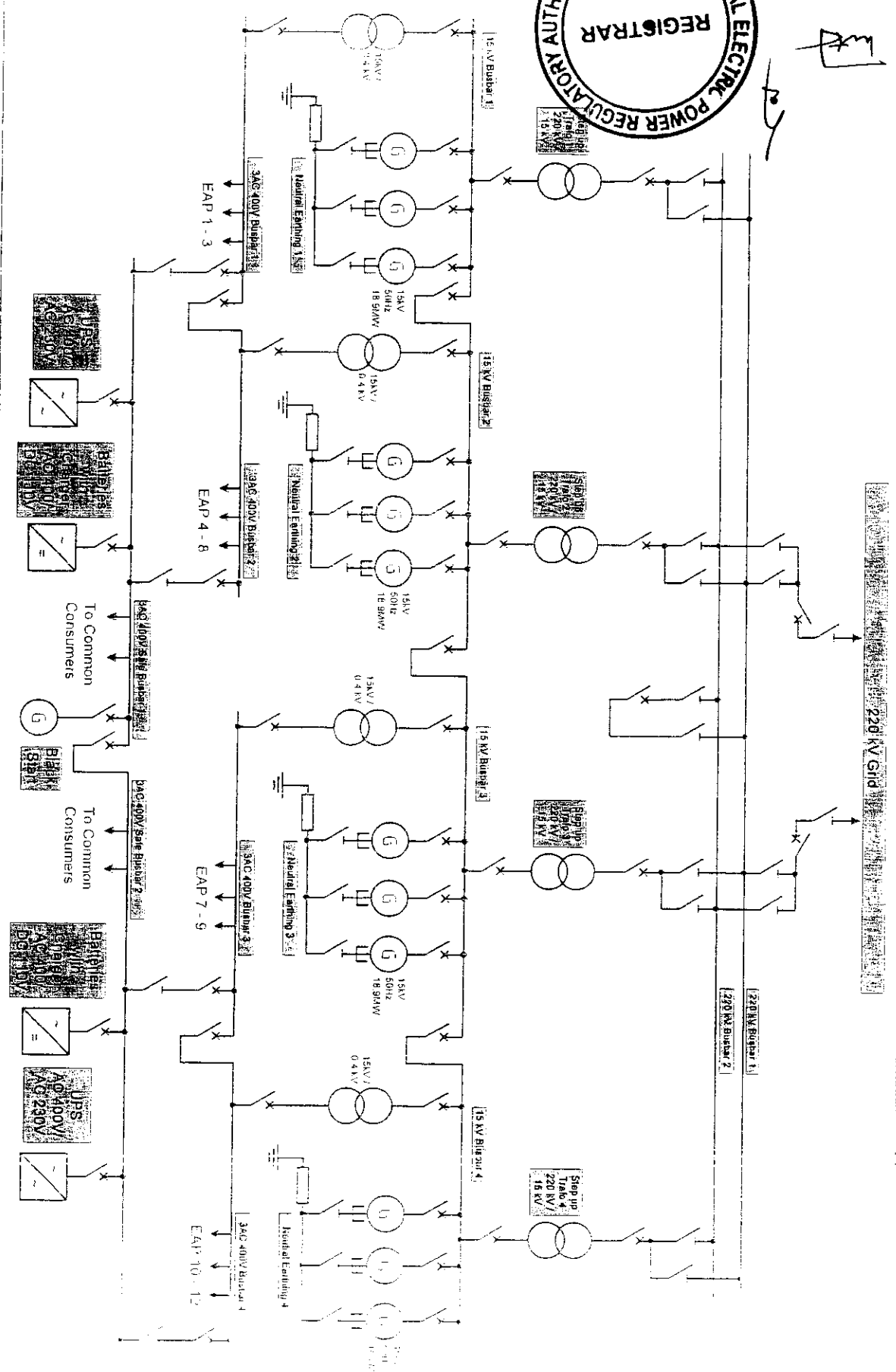
EXISTING POWER FEED FROM
 EXISTING BUILDING

2001-11-13
 11 N. EAT. ST. W.
 412 LAMB ST. W. TORONTO
 ONTARIO M5T 1S6
 TEL: (416) 593-1111
 FAX: (416) 593-1112
 WWW: WWW.ATLASPOWER.COM
 ALL RIGHTS RESERVED

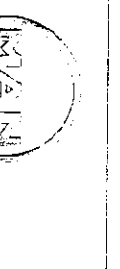




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Field	Date	Init	Field	Date	Init
Initial Release	21.03.07	HB	Hand	05.04.07	HB
Revised	03.04.07	HB	Revised/modified		



Single Line Diagram
 11 x 18V48/50B 15kV, 50Hz
 HV+LV+LV Overview

Project Name:
Atlas, Pakistan
 Order No: MP00161
 Date: 31.03.2007

Plant Details*

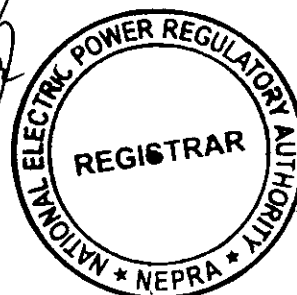
1. General Information

i.	Name of Applicant	Atlas Power Limited
ii.	Registered/Business Office	2 nd Floor, Federation House, Shahrae Firdousi, Clifton, Karachi-75600
iii.	Plant Location	27-Kilometer Lahore-Sheikhupura Road, District Sheikhupura, Punjab.
iv.	Type of Generation Facility	Thermal (Combined Cycle)

2. Plant Configuration

i.	Plant Size Installed Capacity (Gross ISO)	224.35 MW
ii.	Type of Technology	Reciprocating Engines
iii.	Number of Units/Size (MW)	Reciprocating Engines : 11 x 18.9 MW
		Steam Turbine : 1 x 16.45 MW
iv.	Unit Make & Model	MAN Diesel SE Germany/18V48/60
v.	De-rated Capacity at site conditions	219.15 MW
vi.	Auxiliary Consumption	5.55 MW
vii.	Commissioning and Commercial Operation date	End of March 2009
viii.	Expected Life of the Facility from Commercial Operation Date	25 years

* As provided by the Applicant



3. Fuel Details

i.	Primary Fuel	Residual Fuel Oil (RFO)	
ii.	Back-up Fuel	Light Diesel Oil (LDO)	
iii.	Fuel Source (Imported/Indigenous)	Imported/Indigenous	
iv.	Fuel Supplier	PSO/Shell/Total Parco	
v.	Supply Arrangement	Through Oil Tankers	
vi.	No of Storage Tanks	Primary Fuel	Back-up Fuel
		3 Tanks	1 Tank
vii.	Storage Capacity of each Tank	Primary Fuel	Back-up Fuel
		10,600 m ³	1,040 m ³
viii.	Gross Storage	Primary Fuel	Back-up Fuel
		31,800 m ³	1,040 m ³

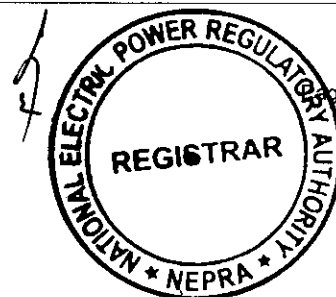
4. Emission Values

i.	SO _x	RFO	LDO
		0.35 t/dMW _{el} (Max)	To be provided later
ii.	NO _x	1700 ppm	-do-
iii.	CO	90 ppm	-do-
iv.	PM ₁₀	70 ppm	-do-

5. Cooling System

i.	Cooling Water Source/Cycle	Underground from tube well or from canal close to proposed site. Closed loop for main cooling system.
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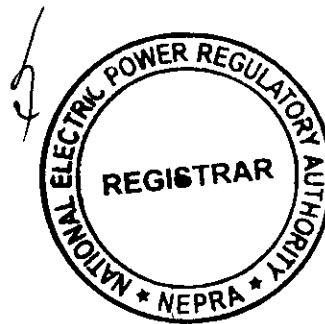
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6. Plant Characteristics

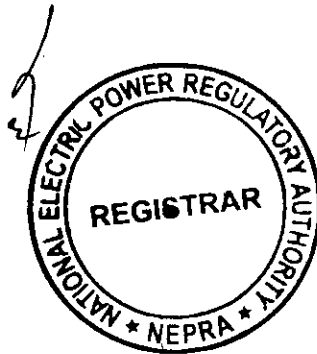
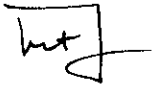
i.	Generation Voltage	15 kV
ii.	Frequency	50 Hz
iii.	Power Factor	0.8 lagging till 0.95 leading with full power output.
iv.	Automatic Generation Control	Yes
v.	Ramping Rate	50 minutes cold/ 35 minutes hot/ STG to full power output maximum 2 hours after all Generating sets achieve full load
vi.	Time required to Synchronize to Grid and loading the complex to full load.	As per dispatch

ket
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SCHEDULE-II

The net capacity of the Licensee's Generation Facilities

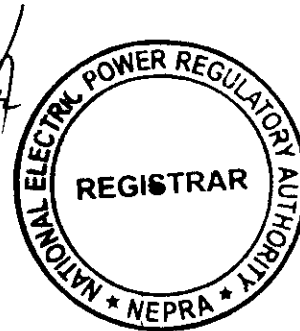


SCHEDULE-II*

1.	Installed Capacity Gross ISO	224.35 MW
2.	De-rated Capacity at Mean Site Conditions	219.15 MW
3.	Auxiliary Consumption	5.55 MW
4.	Net Capacity of the Plant at Mean Site Conditions	213.60 MW

Note

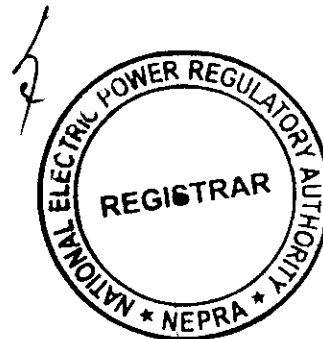
All the above figures are indicative as provided by the Licensee. The Net Capacity available to NTDC for dispatch and other purchasers will be determined through procedures contained in the Agreements or Grid Code.



* As provided by the applicant

INTERCONNECTION SCHEME FOR THE POWER DISPERSAL OF THE PLANT*

The electrical energy generated from the power plant shall be dispersed to the system directly within the load center of LESCO by constructing a new 220 KV D/C transmission Line with an approximate length of 3 Kilometers, for making a single circuit In-Out arrangement of existing 220 KV D/C (twin Bundled) Lahore – Ravi or Bund Road at the site of the Power Plant.

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* As provided in the Power Acquisition Request of Central Power Purchasing Agency of NTDC vide letter no. COO/CPA/CE-II/AP/4140, Dated April 5, 2007

National Electric Power Regulatory Authority
NEPRA

Determination in the Matter of
Grant of Generation Licence to
Atlas Power Limited

May 7, 2007
Application No. LAG-91

Background

A number of Independent Power Generation Projects (IPPs) were initiated under "Policy for Power Generation 2002". The potential IPPs being set up under the Policy of 2002, based on indigenous fuel resource (i.e. Natural Gas) include Orient Power Limited (Balloki, Punjab), Star Power Limited (Dharki, Sindh), Saif Power Limited (Sahiwal, Punjab), Sapphire (Muridkee, Punjab), Foundation Power Limited (Dharki, Sindh), Halmore Power Limited (Bhakhi, Punjab). Tariff has been determined and Licences granted in respect of these IPPs.

2. Shortage of committed Gas expected for future projects and unusual growth in demand for electricity was creating a gap between supply and demand for electricity during 2007 to 2009. Government of Pakistan (GoP), consequently allowed the gap to be met through Furnace Oil based projects for expeditious acquisition of generation capacity to cover the anticipated shortage. The case of Attock Gen Limited (AGL) based on indigenous RFO usage from their own Refinery was also allowed to meet the Gap and consequently Licence was granted vide Authority's determination of September 1, 2006.

3. In order to expeditiously process the induction of new capacity, the Economic Coordination Committee (ECC) approved a fast track based plan to allow PPIB to implement "Thermal fuel based Projects", including Residual Fuel Oil (RFO) based Reciprocating Engine Technology, to the extent of bridging the shortage of 2225 MW between demand and supply. Pre-qualification, submission of feasibility study and issuance of Letter of Interest (LOI) required under the Power Policy of 2002 was allowed to be relaxed for these Fast Track projects.



4. Under the Fast Track initiative, PPIB recommended the proposal of Shirazi Investment (Private) Limited for setting up a 225 MW power plant based on Residual Fuel Oil (RFO) to be located near Shiekhupura, Punjab. In order to, carry out the project implementation, Shirazi Investment (Private) Limited incorporated a separate company in the name of Atlas Power Limited (APL). PPIB advised APL to approach NEPRA for the grant of Generation Licence.

Filing of Generation Licence Application

5. APL, in accordance with Section 15 of NEPRA Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997), filed an application on January 15, 2007 with NEPRA, requesting for the grant of a Generation Licence. The Authority admitted the application of APL for the grant of Generation Licence on March 27, 2007.

6. Pursuant to Regulation-8 of the NEPRA Licensing (Application and Modification Procedure) Regulation, 1999, brief of Prospectus and Notice of Admission was published in daily newspapers of March 30, 2007, for seeking comments from the interested/affected parties and general public.

7. CPPA vide its letter no. COO/CPA/CE-II/3433, dated March 22, 2007 had requested for authorization of procurement of power from APL to the extent of 225 MW on behalf of Ex-WAPDA DISCOs and the Authority granted the permission vide its decision of April 12, 2007.

8. After considering the received comments, the Authority decided to hold a hearing/conference on April 17, 2007, which was attended by the representatives of the applicant and other stakeholders including representatives of PPIB, NTDC, Irrigation department Government of Punjab and Environmental Protection Agency (EPA-Punjab).

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Proceedings of Hearing

9. During the hearing, APL presented salient features of the project and explained that the proposed plant would be consisting of eleven (11) Reciprocating Engines using RFO, each having a capacity of 18.9 MW, one (1) Heat Recovery Steam Generator (HRSG) and one Steam Turbine (1 x 16.45 MW), with a total installed capacity of 224.35 MW (gross) at ISO conditions. Electricity generated from the proposed power plant would be acquired by Central Power Purchasing Agency (CPPA) on behalf of the Ex-WAPDA DISCOs. Further, the power generated by the proposed power plant would be disbursed into the load center of LESCO, through a new 220 KV D/C Transmission line to be constructed by NTDC. The anticipated Commercial Operation Date of the plant was expected to be end of March 2009.

10. Other participants/interested persons were also heard during the hearing. The participants proffered their comments and submitted arguments supporting their stance.

11. The following relevant salient points were discussed during the hearing and commented on by other participants:

- Site location, availability/procurement of land for the plant and confirmation of suitability by Central Power Purchasing Agency (CPPA) in the absence of Feasibility study of the power plant.
- Confirmation of the Supplier to make available the Main and Back up fuel.
- Selection of the Specific Technology (i.e. MAN Diesel Engines) for the Power Plant.
- De-rated Capacity of the Power Plant, as given in the Generation Licence Application.



- Availability/Reliability of Plant Operation.
- Interconnection and Transmission arrangement for dispersal of power from the power plant and the cost of the dispersal arrangement.
- Project Implementation Plan to comply with the Commercial Operating date, to qualify for a Fast Track Project.
- Useful Life of the Power Plant Equipment and Term of the Licence.
- Availability of Water for the Power Plant.
- Compliance with Environmental Standards.

12. APL informed that the location of the site of the proposed power plant is about 27-Kilometer from Lahore on the main Lahore Shiekhupura Road. APL had already purchased 25 Acres of land for the proposed power plant. The existing infrastructure facilities including the availability of main road, location of main oil depot of the potential fuel suppliers and availability of existing electrical infrastructure around the selected site had made it ideal location for such a venture as all these facilities were closely located at the site of the power plant.

13. Regarding the fuel supply arrangement of the power plant, APL elaborated that they were in contact with all the potential supplier regarding the availability of the Main and Back up fuel arrangement and it was expected that a long term fuel supply agreement would be reached soon.

14. With respect to the selection of the MAN technology for the proposed power plant, APL informed that MAN was one of the leading Mechanical Group

19  2

of Europe with annual sale of 16.5 billion Euro. MAN had been manufacturing Diesel engines, turbo machinery, trucks buses, coaches and had been providing industrial services in 120 countries of the world. APL was confident that MAN technology was superior to its competitors including that of WARTISLA in terms of operation and reliability. On account of all these factors APL had decided to select these engines being one of the best in the world. It was also elaborated that these engines would have the option to be converted for operation on gas in future with minimum cost and investment.

15. APL further elaborated that installed capacity of the power plant at ISO conditions would be 224.35 MW which would be de-rated to 219.15 MW at mean site conditions and the net capacity of the plant would be 213.60 MW after allowing the auxiliary consumption of 5.55 MW. It was informed that the plant would be available for 88% of the time. APL also clarified that although the tariff determination of NEPRA had indicated that plant availability as 90% however APL was in process of making a case to NEPRA for clarifying that the availability would be up to 88%.

16. APL further informed that NTDC would be constructing a new transmission line to disperse the power generated by the power plant. It was further elaborated that dispersal arrangement would require the construction of a new 220 KV D/C transmission line for making a single circuit In-Out of the existing 220 KV D/C Lahore-Ravi or Bund Road Transmission Line at the site of the power plant.

17. APL also informed that a comprehensive Project Implementation Plan had already been developed and all efforts were being made to ensure that all the time limits were adhered to so that the plant would be achieving the Commercial Operation Date (COD) by the end of March 2009. It was further elaborated that the seriousness of APL to achieve the COD could be gauged from the fact that APL had already made payment to MAN Germany to acquire the proposed reciprocating engines, which were in high demand on account of rising demands of the power sector. APL ensured that the equipment for the proposed power plant would be completely new. It was also requested that the

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term of the Licence should be for 25 years to make it consistent with proposed PPA to be negotiated with the power purchaser.

18. Regarding the availability of water, APL informed that Tube wells would be installed in the premises of the proposed project site to meet the water requirement of the power plant. The effluent from the power plant would be disposed in accordance with World Bank and Environmental Protection Agency Guidelines making the project completely compliant with Environmental standards. Further, APL also informed that NESPAK had already been appointed to carry out the required Environmental Impact Assessment for the project.

Comments of Applicant on Draft Gen. Licence.

19. Draft Generation Licence proposed to be granted to APL was circulated to all stakeholders including the applicant (i.e. APL). No objections were received earlier or proffered during the hearing with respect to the Terms and Conditions of the proposed Draft Generation Licence by any of the stakeholders. The grant of Generation Licence was supported by all the stakeholders who provided comments to NEPRA.

Grant of Generation Licence.

20. ECC vide its decision of October 31, 2006 had decided to allow thermal (Fossil Fuel) based power generation on a fast track basis to meet the imminent demand of 2007/2008 in order to avoid outages/blackouts. The PPIB had been directed to issue LOIs to the extent of meeting the gap in supply/demand. In view of the absence of a firm commitment of gas availability PPIB had included Reciprocating Engine technology in the basket of procurement to meet the immediate demand. The instant case had been referred by PPIB vide its communication of 1(102) PPIB-1030/05/PRJ, dated May 2, 2006.

21. In view of the prevailing situation of non-availability of natural gas for any of new power projects, the imminent shortage of Generating Capacity with

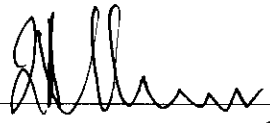
13/11/2006

respect to Peak Demand, lesser construction/commissioning lead time of reciprocating engines compared to other technologies, the reluctance of sponsors to employ Gas Turbine for burning RFO fuel due to vanadium deposition on turbine blades, the Authority considers the proposed project as acceptable under the given circumstances. The Authority has already determined the tariff for APL vide its decision of March 5, 2007; the net capacity has accordingly been established as 213.60 MW after allowing de-rating at Mean site conditions of 5.2 MW and auxiliary consumption of 5.55 MW from an Installed Capacity Gross ISO of 224.35 MW.

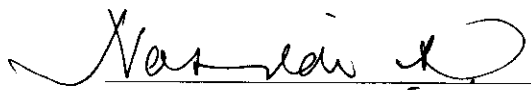
22. In view of the above the Authority hereby decides to approve the grant of Generation Licence to Atlas Power Limited, in the terms set out in the attached Licence as annexed to this determination. The grant of such a licence would be subject to the provisions contained in the NEPRA Act and relevant rules framed there under.

Authority

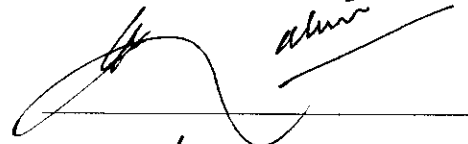
Zafar Ali Khan
Member



Nasiruddin Ahmed
Member



Abdul Rahim Khan
VC/Member



Lt. Gen. (R) Saeed uz Zafar
Chairman

