National Electric Power Regulatory Authority

Islamic Republic of Pakistan

Registrar

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E-mail : office@nepra.isb.sdnpk.org
Direct Phone : (051) 9206500

No. NEPRA/R/LAG-06/7735-36

30.8.2003

General Manager/Secretary
M/s. Fauji Kabirwala Power Company Limited
14, Harley Street
Rawalpindi Cantt.

Subject: **Grant of Generation Licence IPGL/05/2003**
Licence Application No. LAG 06
M/s. Fauji Kabirwala Power Company Ltd.

Please refer to your application No. FKPCL/Secy/16-S/51, dated 03.05.2000 for a Generation Licence.

2. Enclosed here is Generation Licence No. IPGL/05/2003 granted by the Authority to M/s. Fauji Kabirwala Power Co. 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.

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(Mahjoob Ahmad Mirza)

Copy for information to Director General, Pakistan Environmental Protection Agency, 44-E, Office Tower, Blue Area, Islamabad.

National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan

GENERATION LICENCE

NO. IPGL/05/2003

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: -

Fauji Kabirwala Power Company Limited

Incorporated under the Companies Ordinance, 1984
Under Certificate of Incorporation

No. I-01486 Dated 28th July 1994

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

Given under my hand this 26th day of August, Two Thousand & Three and expires on 25th day of August, Two Thousand & Twenty Nine.

Registrar

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
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(NEPRA)

National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan

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Article 1
Definitions

(1) In this Licence:

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

b. "Agreements" means any or both of the Implementation Agreement and the Power Purchase Agreement,

c. "Authority" means the National Electric Power Regulatory Authority constituted under Section 3 of the Act, or any successor thereof;

d. "Implementation Agreement" means the Implementation Agreement dated 28th January 1996 as amended and restated between the Licensee and the President of Pakistan;

e. "Licensee" means Fauji Kabirwala Power Company Limited;

f. "Power Purchase Agreement " means the Power Purchase Agreement dated 12th March 1996 as amended and restated between the Licensee and the power purchaser thereof and for the due performance of which a sovereign guarantee has been executed by the Government of Pakistan;

g. "Rules" means the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000, as amended from time to time;

(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

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

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(2) During the subsistence of the Agreements entered into by the Licensee prior to the enactment of the Act, nothing contained in the Rules or this Licence shall be applied in a manner which is inconsistent with the Agreements and materially increases the obligations or impairs the rights of the Licensee under the Agreements.

Article 3
Generation Facilities

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

(2) The net capacity of the generation facilities is set out in Schedule II hereto.

Article 4
Term

(1) Pursuant to Rule 5 of the Rules, this Licence is granted for a term of Twenty-six (26) years.

(2) Unless revoked earlier, the Licensee may, ninety (90) days prior to the expiry of the term of the licence, apply for renewal of the Licence under the Licensing (Application and Modification Procedure) Regulations, 1999.

Article 5
Licence Fee

The Licensee shall pay to the Authority the Licence fee in the amount and manner and at the time specified in the National Electric Power Regulatory Authority (Fee) Rules, 2002.

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Article 6
Competitive Trading Arrangement

(1) During the subsistence of the Agreements entered into by the Licensee prior to the enactment of the Act, the Licensee shall have the option to participate in such measures as may be directed by the Authority from time to time for development of a Competitive Trading Arrangement.

(2) Any variation or modification in the Agreements under the foregoing sub-article (1), for allowing the Licensee 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.

(3) In the event that the Licensee exercises its option to participate wholly or partially in development of the Competitive Trading Arrangement under the fore-going sub-article (1), 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 and in doing so, the Licensee shall not by any act or omission impede the development, implementation or operation of the Competitive Trading Arrangement.

Article 7
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 standard and electronic form and all such records and data shall, subject to just claims of confidentiality, be accessible by authorized officers of the Authority.

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Article 8
Compliance with Performance Standards

Subject to the provisions of Article 2(2), the Licensee shall comply with the relevant rules on performance standards as may be prescribed by the Authority from time to time.

Article 9
Compliance with Environmental Standards

The Licensee shall, to the full satisfaction of the relevant competent authority, comply with the environmental standards as may be prescribed by the aforesaid relevant competent authority from time to time.

Article 10
Provision of Information

Subject to the provisions of Article 2(2), the Licensee shall provide to the Authority all such information as the Authority may require.

Article 11
Revocation and Suspension

(1) In exercising its powers to suspend or revoke the Licence under Section 28 of the Act, the Authority shall issue a show cause notice of a period not less than 30 days.

(2) Pursuant to the powers under Rule 8(4), the obligations of the Licensee under Rule 8(3) stand modified to the extent of inconsistencies with the Agreements and in the event of termination of the Agreements, the Authority may revoke or suspend this Licence.

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Article 12
Approvals and Authorisations

Notwithstanding the provisions of Article 11(2), the Licensee shall apply to the Authority, where required, for approvals and authorizations under the Rules, including without limitation, the approvals and authorisations under Rule 8, Rule 10 and Rule 14.

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Schedule I

SCHEDULE I

POWER PURCHASE AGREEMENT

MINIMUM FUNCTIONAL SPECIFICATIONS

The Complex consists of two (2) gas-fired combustion turbine-generators, two(2) heat recovery steam generators (boilers), two (2) 26 meter exhaust stacks, one (1) steam turbine –generator, one (1) multi-cell induced draft cooling tower, condenser and pumps, a water treatment system, transformers and a 132 kV electrical switchyard. The turbine-generators will have the following ratings at ISO conditions:

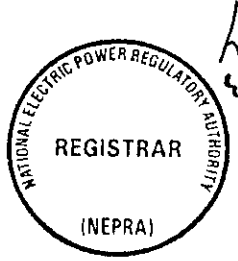
GROSS ISO CAPACITY (EACH COMBUSTION TURBINE) = 48 MW
GROSS CAPACITY (STEAM TURBINE) = 74 MW

The Complex wilt have the following design rating at Mean Site Conditions (MSC) of [25] deg C, 60% relative humidity and an altitude of 138 meters above sea level.

NET CAPACITY (COMPLEX) @ MSC	Max 151.2 MW ± 3% at reference ambient conditions (25°C an 60% R.H)

The site is located near the Village of Chuprata, Tehsil Kabirwala in Khanewal District. The site area is characterized by an arid desert climate. Average rainfall is 395 mm per year, but this amounts falls in short durations. Ambient conditions at the Site are expected to be as follows:

MEAN MAXIMUM AIR TEMPERATURE	=	32.6 Deg C
MEAN MINIMUM AIR TEMPERATURE	=	17.8 Deg C
EXTREME MAXIMUM AIR TEMPERATURE	=	49.0 Deg C
EXTREME MINIMUM AIR TEMPERATURE	=	-4.0 Deg C
LOW RELATIVE HUMIDITY	=	15%
HIGH .RELATIVE HUMIDITY	=	87%
MAXIMUM NORMAL WIND SPEEDS	=	160 km per hour



A maximum earthquake design factor of g = 0.15 (Uniform Building Code Zone 2) will be utilized for the design of the plant buildings and structures and the design wind speed will be 160 km\hr.

The Site will be at elevation 138 meters above mean sea level (MSL). All structures will have a ground floor elevation above 138 meters above MSL. Access to the Site will be provided by the Multan - Sargodha Highway.

The main power block consists of the two (2) combustion turbine-generators, two (2) heat recovery boilers, and the single steam turbine-generator. The combustion turbines and boilers are outdoor units. The steam turbine will be located indoors with overhead crane access. The Other plant buildings and structures outside of the main power block include the following:

1. Control and Electrical Switchgear/MCC Building.
2. Water Treatment Building.
3. Office/Maintenance/Warehouse Building.
4. Switchyard Control Building.
5. Residential Colony.
6. Back-up fuel storage facilities in the event the Complex is converted to operate on pipeline gas only.
7. Fuel handling and storage facilities in the event of an election by the Company to change the Complex to operate on a liquid fuel following a Gas Supply Failure.

Note: Items 1 & 3 may be combined.

The Complex will use a mixture of low-Btu gas and pipeline gas to fire the combustion turbines. The exhaust from each combustion turbine will be directed to the connected heat recovery boiler where energy is recovered to produce steam. The steam will be directed to the steam turbine to generate more electric power. Hot flue gases leaving the heat recovery boilers will exhaust to atmosphere through stacks. Steam exhaust from the steam turbine will be cooled in the condenser and closed loop cooling water system comprising the cooling tower and circulating water pumps. There will be one (1) deaerator feedwater heater, located outdoors, using low pressure steam from the heat recovery boilers. The boiler feed pumps, located outdoors, will be electric motor driven.

Cooling will be supplied via the condenser and cooling tower system. The boilers will be two pressure level, heat recovery-type boilers with natural circulation. The boilers will be designed to provide access for manual tube cleaning while the Complex is fueled on natural gas.

The primary fuel for the gas turbines will be a mixture of low-BTU gas and pipeline quality high-Btu gas which will be mixed at the Complex in proportions necessary to achieve optimum performance of the Complex. Pipeline quality high-Btu gas will be used for Start-Ups and

stability control. Once each gas turbine is stabilized, the unit will be transferred on line to the mixture of low-Btu and high Btu gas.

The steam turbine will have a design gross rating of 59.4 megawatts at the generator terminals at 50.4 mm Hg backpressure with feedwater deaerator heating at 1.4 kg/sq. cm and with a circulating water temperature of [34] deg. C.

Each combustion turbine generator will be nominally rated as 61.25 MVA, 0.80 lagging and 0.90 leading power factor, 11,500 V, 3 phase, 50 cycle, and a short circuit ratio of not less than 0.52. The generators will be TEWAC (Totally Enclosed, Water/Air Cooled) type.

The steam turbine generator will be nominally rated as 82.5 MVA, 0.80 lagging and 0.90 leading power factor, 11,500 V, 3 phase, 50 cycle, and a short circuit ratio of not less than 0.50. The generator will be TEWAC (Totally Enclosed, Water/Air Cooled) type.

The Complex will be capable of operation within a voltage range of +/-10% on the 132 kV system.The Complex has the capability to operate at 115% of rated 132 KV when the taps of the Power transformers are adjusted to the maximum position of 145 KV.For all tap positions of the Power transformers the over and under voltage values shall not exceed the limits as described in IEC-76.

The Complex will include one dedicated transformer for each of the three generators.

Interconnection with the WAPDA system will be via a 132 kV, open air type substation, with SF6 type circuit breakers.

A common control room will be provided to monitor and control the Complex. Operator interfaces for control of the Complex will be via Operator control consoles utilizing a state of the art Distributive Control System. The plant control systems will include a data acquisition system and historical data recorder.

Low-Btu gas will be delivered to the Complex via OGDC pipeline from certain dedicated low-Btu gas fields. High-Btu gas will be delivered to the Complex via a spur off of the SNGPL pipeline.

All material, equipment, and machinery incorporated in the construction of the Complex shall be new and unused.

Following depletion of the low-Btu gas reserves comprising the primary fuel source for the Project, and in the event that additional supplies of pipeline gas are not made available to the Company by the GOP at such time, the Company may elect, at its sole expense, to convert the Complex to operate on an alternate fuel supply, including residual fuel oil.

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SCHEDULE 2

TECHNICAL LIMITS

1. Design Limits

1.1 Unit Starts

(a) The notice required by the Company to Start-Up the Complex and synchronize to the WAPDA Grid System will vary according to the length of time the Unit has been shutdown. Table 1 below shows the length of notice required against various periods of shutdown.

Table 1

Length of Shutdown	Time Req'd to Synchronize	Checkout Time
(i) Less than 8 hours (Hot Start)	Gas Turbines - 15 minutes Steam Turbine - 30 minutes	5 minutes 15 minutes
(ii) More than 8 hours (Cold Start)	Gas Turbines - 15 minutes Steam Turbine - 2.5 hours	30 minutes 30 minutes

(b) Hot or Cold Starts, starting, or started means the process of firing the gas turbines on pipeline quality gas, soaking and running the boilers, soaking and running up the Steam turbine generator and synchronizing one or more of the three generators to the WAPDA Grid System.

(c) The notice required to synchronize under item (i) above shall apply provided the previous shutdown was not the result of a trip.

(d) There is no specific limit on the number of Hot or Cold Starts for the equipment in the Complex.

Table 2

Not used

For the purpose of this subsection (d), a start shall be deemed to have occurred upon

synchronization of the Unit to the Grid System.

1.2 Complex Loading

(a) The Complex load ramping rate is the steady rate at which the load can be raised. The maximum load ramping rates are shown below in Table 3:

Table 3 - Pipeline Gas Loading

	Complex Load Range	Cold Start MW per minute	Hot Start MW per minute
(i)	Synch. to 50 MW (Single Gas Turbine)	3 MW/min (Unit will stay at 7 to 15 MW for 20-30 minutes for HRSG warm-up.)	3 MW/min
(ii)	50 MW to 75 MW (Steam Turbine Part Load)	3 MW/min	3 MW/min
(iii)	75 MW to 125 MW (Second Gas Turbine Synch. to Full Load)	3 MW/min (Complex will stay at 82 to 90 MW for 20-30 minutes for HRSG warm-up.)	3 MW/min
(iv)	125 to Full Load	6 MW/min	6 MW/min

(b) Complex load percentages in this Schedule refer to the load at the generator terminals as a percentage of gross capacity.

(c) Step changes in Despatched load of up to 4% per minute are allowable provided that Complex load is greater than 20 percent.

(d) The Complex can withstand a full load rejection and remain in a safe condition. The Complex can be resynchronized within one hour provided that the reason for the load rejection has been removed.

(e) The Complex minimum continuous loading shall be 20%, or 30.0 Megawatts subject to Section 2.4 of the Agreement.

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(f) The Company, in its sole discretion, shall determine the output level of each generating unit of the Complex in order to meet the Despatch requirements of WAPDA, provided, however, that the shutting down and restart of a generating unit to meet the despatch at the Company's discretion shall not result in Start-Up charges for unit starts as described in Section 10.1 of Schedule 6 of this Agreement.

1.3 Frequency, Power Factor, Voltage Limits, and Droop Setting

(a) The Complex will be operated at 100% load with a power factor in the range of 0.8 lagging to 0.90 leading, which range shall not be exceeded. Each generating unit of the Complex has a Reactive Power capability as follows:

	0.80 Lag		0.90 Lead	
	CT	ST	CT	ST
100% output (MVAR's)	34.0	44.0	20.0	22.0

	Lagging		Leading	
	CT	ST	CT	ST
Minimum output (MVAR's)	46.0	60.0	18.5	20.5

(b) The Complex can operate within the range of +/- 10% on the 132 kV high voltage system.The Complex has the capability to operate at 115% of rated 132 KV when the taps of the Power transformers are adjusted to the maximum position of 145 KV.For all tap positions of the Power transformers the over and under voltage values shall not exceed the limits as described in IEC-76.

(c) The Governor speed set points will be settable by Turbine Controller from 90% to 110%.

(d) The Complex will be subject to tripping if voltage fluctuations outside the ranges stated in 1.3(b) occur.

(e) The Unit governor droop for each turbine is adjustable in the range of 2% to 8%. The automatic voltage regulator droop setting for each generator is adjustable in the range of 0% to 10% of rated voltage.

1.4 General

The Company shall advise WAPDA of any temporary operating constraints and limits which may from time to time apply to the Complex.

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2. Design Maintenance Limits

The cycle of Scheduled Outages is set out in Table 4 below together with a manufacturer's recommended durations for such inspections.

TABLE 4

Approximate Intervals	Manufacturer's Recommended Inspection	Expected Duration
8,000 Operating Hours	Combustor Inspection - GT	7 days
24,000 Operating Hours	GT Hot Gas Path Inspection	14 days
48,000 Operating Hours	ST Inspection	14 days
48,000 Operating Hours	Major GT Overhaul	30 days
12 Months	Boiler Inspection	7 days

Scheduled Outages which continue on a one (1) year cycle must be maintained. All boiler inspections will be completed within the above timescales.

The scheduling of maintenance inspections will be compatible with regulatory requirements. All regulatory inspections will be carried out during Scheduled Outages. Subject to regulatory requirements, the timing of annual Scheduled Outages shall be within a range 9 months to 15 months from the start of the previous Scheduled Outage. The commencement of the Scheduled Outages which are dependant upon operating hour shall begin at plus or minus three months of the operating hour inspection interval shown in Table 4.

3. Prudent Utility Practices

Notwithstanding anything to the contrary, the Company shall operate and maintain the Complex in accordance with Prudent Utility Practices.

SCHEDULE-3

INTERCONNECTION FACILITIES AND TRANSMISSION FACILITIES

1. Interconnection and Transmission Facilities

(a) The Complex shall be connected to WAPDA's 132 kV transmission lines to be constructed by WAPDA near the Site. The transmission/interconnection lines will be connected to the Complex at the line terminal gantries provided by the Company in the switchyard of the Complex. The physical point at which the transfer of Net Electrical Output occurs between the Company and WAPDA, and the boundary of responsibility between the Company and WAPDA, will be the clamps installed by the Company on WAPDA's conductor jumpers between the terminal towers of the Transmission Facilities and the Company's line terminal gantries for connections to the switchyard equipment within the boundary of the Complex (the "Interconnection Point(s)). The Company will provide WAPDA with a ground connection from the grounding system of the Complex. WAPDA will connect the transmission/interconnection lines referred to above to the line terminal gantries within the Site boundary and will construct, install, test and commission the transmission lines on WAPDA's side of the Interconnection Point that are necessary to enable WAPDA and the Grid System to receive all Net Electrical Output that the Complex is capable of generating throughout the Term in accordance with the terms of the Power Purchase Agreement. Any interconnection and/or transmission lines on WAPDA's side of the Interconnection Point shall remain the property of WAPDA, shall be operated and maintained thereafter by WAPDA and shall constitute a part of the "Interconnection Facilities" and/or "Transmission Facilities." The Company will provide the necessary equipment for telecommunications and data interfaces for WAPDA's SCADA systems as described in Section 8.7 of the Power Purchase Agreement. The dedicated CT's and CVT's for providing input to the Metering System will be provided and installed by the Company.

(b) Protection. A carrier intertripping circuit for each transmission line shall be provided by the Company between the line circuit breakers at the Complex owned by the Company and the line circuit breakers at the Khanewal or Kabirwala substation owned by WAPDA.

2. Design Data

The following design data has been provided by the Company to WAPDA to enable completion by WAPDA of the design of the Interconnection Facilities and the Transmission Facilities.

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2.1 Generator Design Data

(a) Rating

Generation Rating	Gas Turbine (each)	61.25 MVA
	Steam Turbine	82.5 MVA
Gross ISO Capacity	Gas Turbine (each)	48 MW
	Steam Turbine	74 MW
Power factor		0.80 lagging
		0.90 leading
Rated hydrogen pressure		N/A -Air Cooled
Number of Phases		3
Number of Poles		2
Frequency		50Hz
Rated Speed		3000 RPM
Terminal Voltage		11.5 kV

Short circuit ratio at rated MVA:

Gas Turbine Generators	not < 0.52
Steam Turbine Generator	not < 0.50

Excitation System: Brushless

(b) CT/ST Generator Reactances (at the rated MVA & kV base per unit)

Direct axis synchronous Reactance unsaturated	2.10/2.14
Direct axis sub-transient Reactance unsaturated	0.16/0.16
Direct axis transient Reactance saturated	0.17/0.18

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Negative sequence reactance at rated voltage	0.12/0.13
Zero phase sequence reactance	0.07/0.05
Armature Leakage reactance	0.07/0.07

(c) GT/ST Generator timing constants (in seconds)

Direct axis open circuit, transient time constant	9.65/12.8
Direct axis open circuit sub-transient time constant	0.05/0.05
Direct axis short circuit trans-transient time constant	0.63/0.87
Direct axis short circuit sub-transient time constants	0.04/0.04

(d) Inertial constant

Generator plus turbine	>2.0 sec/MVA

General Note: the above design values will have tolerances as specified in the relevant IEC standards.

2.2 Excitation System

Excitation of the main generator is provided by a direct drive, brushless type exciter with stationary field and rotating armature. The excitation control system has one (1) voltage regulator which is an automatic voltage regulator (AVR) and manual excitation control (MEC). During normal operation, the whole excitation system is subject to automatic control by means of the AVR.

Technical Characteristics

(i) Voltage setting range for AVR operation: +/- 10%

(ii) Voltage adjusting range for MEC operation: 20% to 110% of nominal.

(iii) Generator terminal voltage is held controlled within +/- 10% from no

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load to full load at rated frequency, and will withstand a +/- 10% variation.

(iv) Under the maximum direct current supplied from the excitation system for a specified time, the ceiling voltage supplied to the generator field is 1.6 p.u.

2.3. Generator Transformers

Data	CT Generators(2)	ST Generator(1)
MVA Rating	48/60/75 MVA OA/FA/FAO	60/75/94 MVA OA/FA/FAO
Rated Voltage	11.5 kV - 132 kV	
Maximum/Minimum Operating Voltage	118.5/145.5 kV	
Highest Operating Voltage for which tappings are designed	+/- 10%	
Winding Connection	Delta-Wye	
Taps of winding	+/- 10% in 32 Steps	
Positive/zero sequence reactances on rated kV and MVA base	CT Generator 9.9% / 8% ST Generator 9.9% / 8%	

2.4 The governor speed set point will be settable by turbine controller from 90 to 110%.

2.5 The AVR droop setting is $\pm$ 0.5%.

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SCHEDULE 4

COMMISSIONING AND TESTING

(a) Actual Initial Delivered Capacity

During Commissioning the delivered capacity of the Complex, measured at the Metering System at the outgoing busbar, and corrected to mean site conditions pursuant to Section (i) of this Schedule 4, will be demonstrated. All tests shall be conducted in accordance with ASME and IEC standards. In the event of a shortfall in delivered capacity exceeding ten (10) percent of Estimated Dependable Capacity, after correction to mean site conditions as provided herein, WAPDA shall have the right to reject the Complex.

(b) Reliability Run

A reliability run will be carried out as part of the Commissioning tests and must be satisfied prior to the Complex being certified Commissioned by the Engineer. The run will be for a period of 7 days (168 hours) and will include seventy-two (72) continuous hours at maximum continuous rating. The output during the remaining 96 hours of the test will be as requested by WAPDA. The test shall have been satisfactorily completed only if it continues without interruption for not less than 168 hours.

(c) Automatic Voltage Regulator (AVR) Droop

The AVR will be demonstrated to control the generator voltage over the range of ± 10 percent of rated voltage with a droop characteristic of ± 0.5 percent.

(d) Turbine Governor Operation

The operation of the speed governor will be demonstrated over its range, the droop being adjusted from 2 percent to 8 percent.

(e) Reactive Capacity

Tests will demonstrate the capability of the Complex to operate at rated voltage and frequency at power factors and under reactive conditions, measured at the generators, as follows:

	0.80 Lag		0.90 Lead	
	CT (each)	ST	CT (each)	ST
100% output (MVAR's)	34.0	44.0	20.0	22.0

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	Lagging		Leading	
	CT	ST	CT	ST
Minimum output (MVAR's)	46.0	60.0	18.5	20.5

(f) Minimum Load Capability

Tests will demonstrate the capability of the Complex to be operated at twenty (20) percent of gross rated output while the boiler, turbine and auxiliaries remain in a stable and controlled condition. Demonstration of this output is a prerequisite to performing the reliability run.

(g) Response of Complex to Step Load Changes

The Complex shall be demonstrated to be capable of a step increase in load of 4 percent of gross rated output provided the Complex load is greater than 75 percent. It shall also be demonstrated to be capable of withstanding a sudden loss of demand of 10 percent of gross rated output from any load in the range 20 percent to 100 percent. The Complex must not trip and must otherwise remain in a safe condition.

(h) Full Load Rejection

Tests shall demonstrate the ability of the Complex and its auxiliaries to withstand full and part load rejection and remain in a safe condition. Demonstration of this test is a prerequisite to performing the reliability run.

(i) Mean Site Conditions and Correction of Test Results

The results of all tests conducted for purposes of demonstrating delivered capacity and establishing the Dependable Capacity of the Complex shall be corrected to the following mean site conditions:

cooling water temperature	27 degrees C
atmospheric temperature	[25] degrees C
relative humidity	60 percent
barometric pressure	@138 meters msl

Prior to the commencement of Commissioning, the Company shall deliver to WAPDA output correction curves and formulae depicting the effects on the measured output of the Complex due to variations in actual conditions from the established mean site conditions as set forth above.

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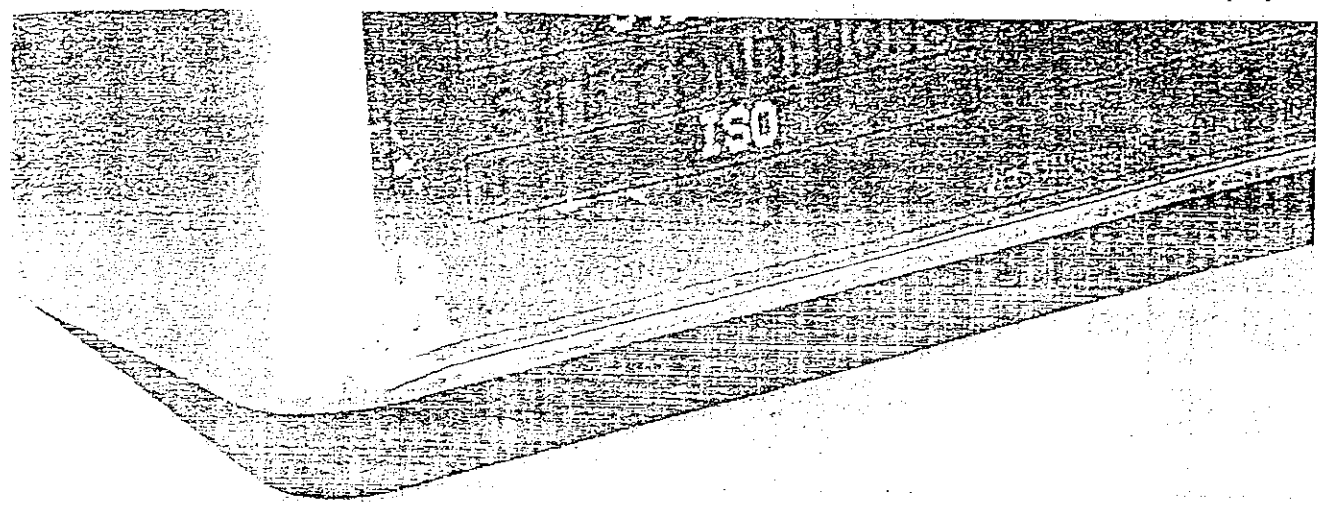

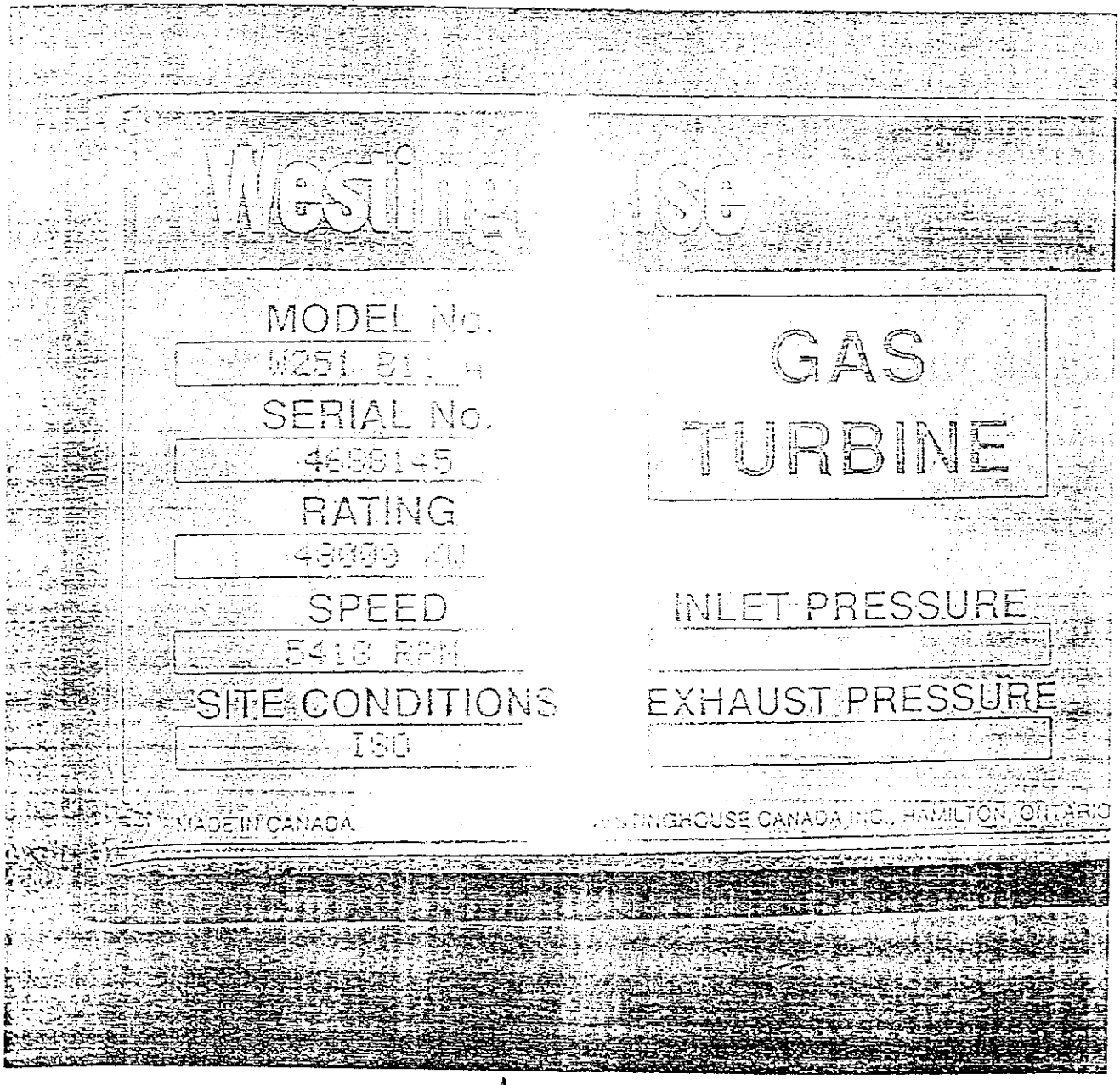

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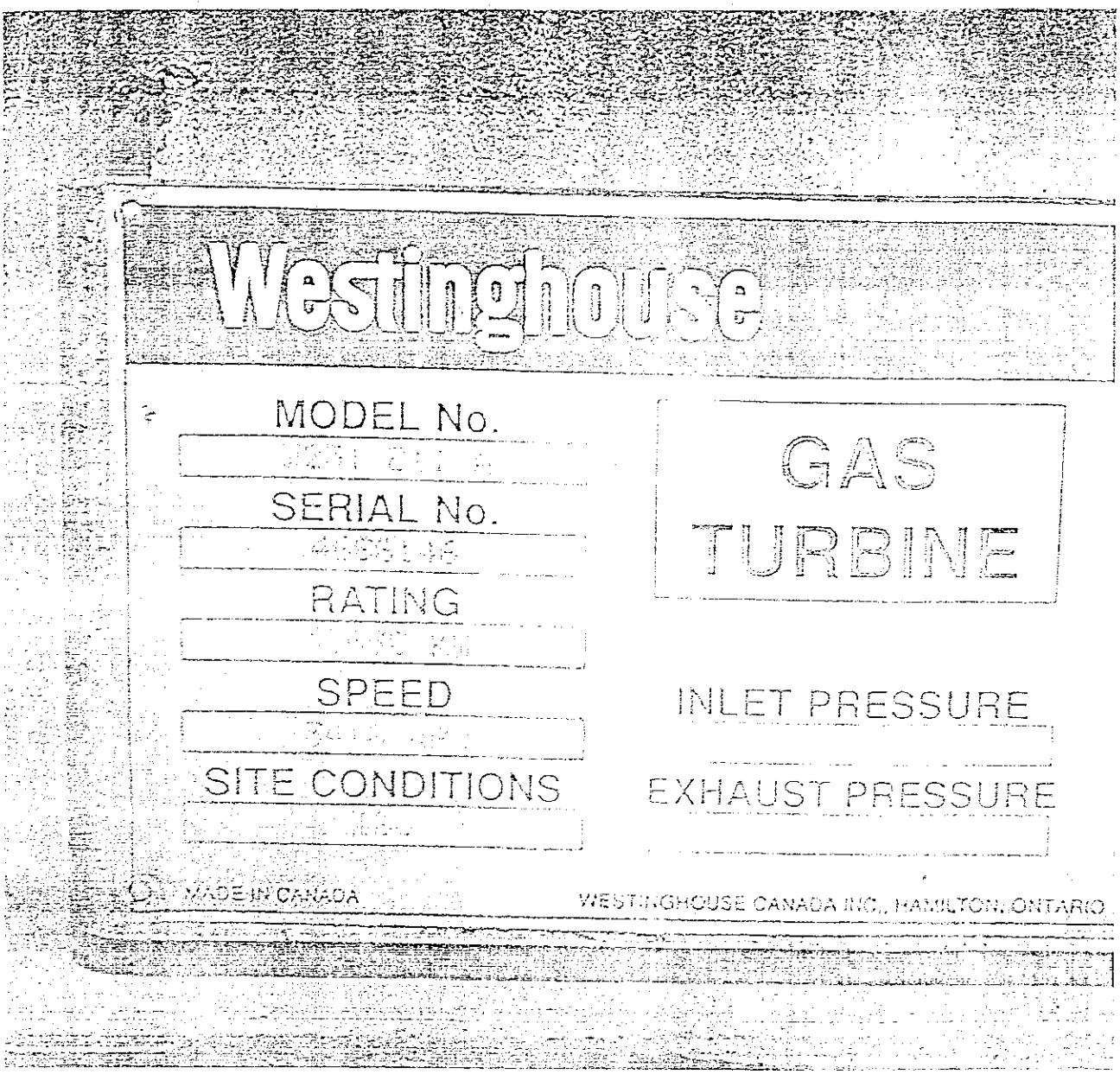

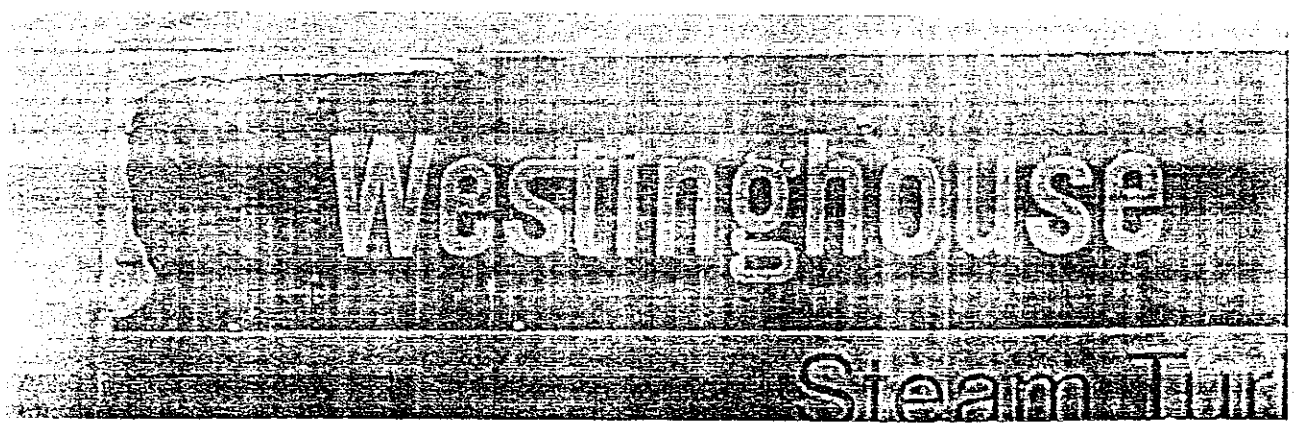

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
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15/4/2003