

ENGIE

For UPL's Reg. No. 8

13/5/22

- DG (Lic) with electric

Uch Power (Private) Limited

1-B, 13<sup>th</sup> Center Sector C-5/1-1  
Islamabad - 44000, Pakistan  
Tel: +92 51 2624 840-45  
Fax: +92 51 2624 846-47

copy to

- ADG CT

- SA / UPL

- Cms. (Tech)

cc: Chairman

- VC / m (LIC / CA)

- m (Lic / T)

May 30, 2022

The Registrar

National Electric Power Regulatory Authority ("NEPRA / Authority")

NEPRA Tower Attaturk Avenue (East),

G-5/1, Islamabad

Subject: Uch Power (Private) Limited – 586 MW Indigenous Low BTU based Thermal Power Generation Facility – Application for Extension of UPL's Generation Licence no. IPGL/014/2003 dated August 26, 2003

Dear Sir,

We write with reference to the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with the National Electric Power Regulatory Authority Licensing (Application, Modification, Extension & Cancellation) Procedure Regulations, 2021 as amended ("2021 Regulations"), the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000 ("2000 Rules"), and Generation Licence no. IPGL/014/2003 dated August 26, 2003 ("UPL Generation Licence") issued to Uch Power (Private) Limited ("UPL" or the "Company").

Pursuant to Rule 5(2) of the 2000 Rules and Regulation 13 of the 2021 Regulations, the Company hereby submits the application for extension of the UPL Generation Licence (with the enclosed documents) (the "Generation Licence Extension Application") for the kind consideration of and favorable approval by the Authority.

In compliance with the aforesaid 2000 Rules and 2021 Regulations, the Generation Licence Extension Application is submitted in triplicate along with (a) Board Resolution of the Company dated May 26, 2022; (b) Affidavit as to the correctness, authenticity and accuracy of the application, documents and information submitted; and (c) Habib Bank Limited Pay Order no. 19997025 dated May 27, 2022 amounting Rs1,562,999 (net of withholding tax at the rate of 8% on gross fee of Rs1,698,912) in accordance with Schedule II of the 2021 Regulations.

The Company shall be pleased to assist the Authority in clarifying any aspect of the Generation Licence Extension Application and request for an earliest extension

10.1.562,999/-

5636  
08/6/22

8/6



**Uch Power (Private) Limited**

of the UPL Generation Licence. We look forward to hearing from you.

Sincerely,

A handwritten signature in dark ink, appearing to read "Rodak Ali Iqbal", written over a horizontal line.

Rodak Ali Iqbal  
Chief Executive Officer

*Suf*

Encl: (i) Board Resolution  
(ii) Affidavit  
(iii) Pay order  
(iv) Generation Licence Extension Application.

Account Payee Only



**HBL** HABIB BANK  
ISLAMABAD-CORPORATE 0874  
HABIB BANK TOWER BLUEAREA ISLAMABAD

B.C. No. 19997025  
Stationary No: 19997025

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Pay to NATIONAL ELECTRIC POWER REGULATORY AUTHORITY A/C OF UCH PO  
WER (PRIVATE) LIMITED or Order

PKR 144441,562,997.00

Rupees One Million Five Hundred Sixty Two Thousand Nine Hundred

Ninety Nine Only.

Payable at any HBL Branch in Pakistan  
Centralised Cheque Payable Account  
30019903902586

Please do not write below this line.

Signature of KHURRAM WAJEED  
Operations Officer (PA-II 2011)  
Corporate Centre  
ISLAMABAD  
Signatory PA No. 10428

⑈19997025⑈0543001⑈0030019903902586⑈010⑈




## Uch Power (Private) Limited

of the UPL Generation Licence. We look forward to hearing from you.

Sincerely,

A handwritten signature in black ink, appearing to read "Rodak Ali Iqbal". The signature is fluid and cursive, with a large initial "R" and "A".

 Rodak Ali Iqbal  
Chief Executive Officer

Encl: (i) Board Resolution  
(ii) Affidavit  
(iii) Pay order  
(iv) Generation Licence Extension Application

## **BOARD RESOLUTION**

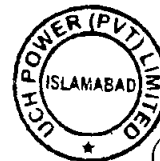
**CERTIFIED TRUE COPY****RESOLUTIONS  
OF THE  
BOARD DIRECTORS  
OF  
UCH POWER (PRIVATE) LIMITED (THE "COMPANY")  
PASSED ON MAY 26, 2022:**

**UNANAMOUSLY RESOLVED** under Article 80 of the Articles of Association of the Company that Uch Power (Private) Limited (the "Company") be and is hereby permitted and authorised:

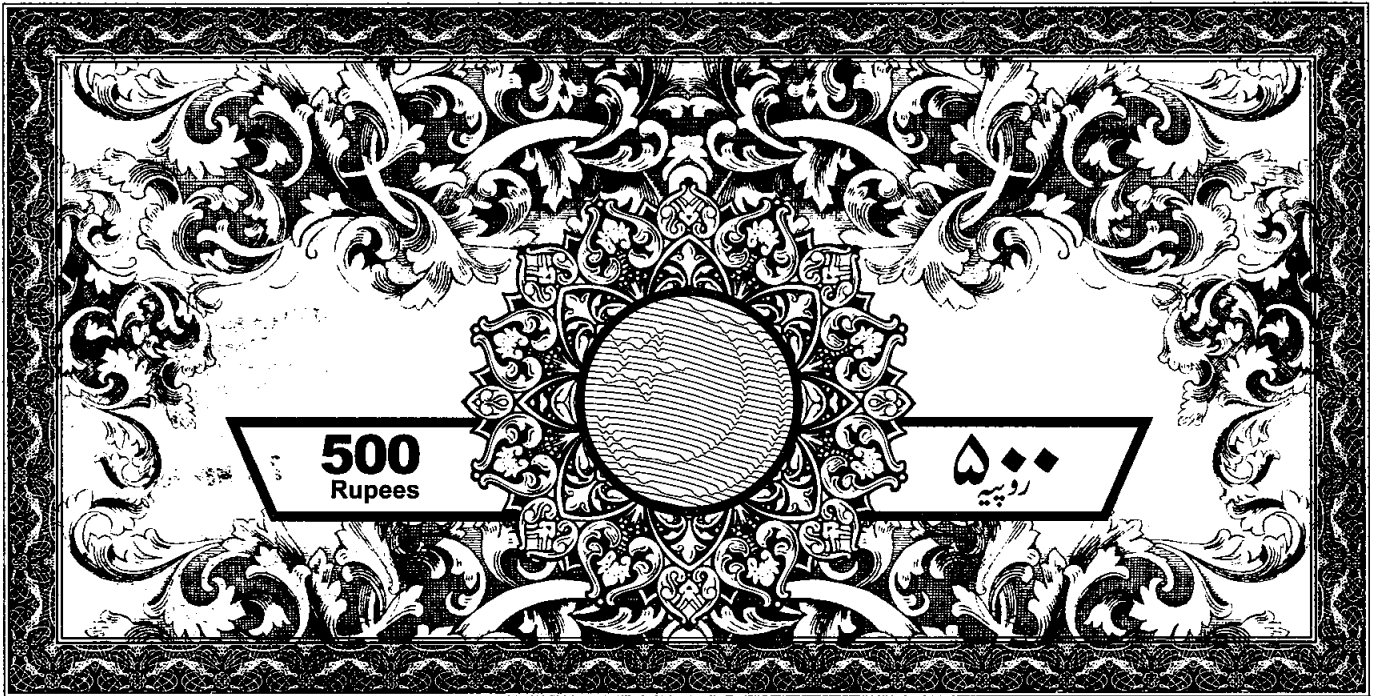
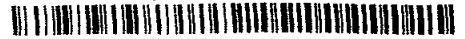
- (I) to prepare, deliver, file, apply and submit, pursuant to the applicable laws of Pakistan, including the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with the rules and regulations made thereunder (including the National Electric Power Regulatory Authority Licensing (Application, Modification, Extension & Cancellation) Procedure Regulations, 2021 as amended and the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000), an application (together with all supporting documents attached thereto) before the National Electric Power Regulatory Authority ("NEPRA") for NEPRA's approval of the extension of the Company's generation licence No. IPGL/014/2003 (the "Generation Licence") to cater, inter alia, for seven (7) years and one (1) month and twenty three (23) days (the "Generation Licence Extension Application") and, as a result, enter into and execute all required documents, make all filings, attend all hearings, provide all required information and pay all applicable fees, in each case, of any nature whatsoever.
- (II) Mr. Rodak Ali Iqbal (Chief Executive Officer) is hereby authorized as representative of the Company to address, perform, negotiate, decide, execute, implement and/or undertake all matters of any nature whatsoever in relation to the Generation Licence Extension Application including, without limitation to review, execute, submit, and deliver the Generation Licence Extension Application and any related documentation and or information required by the NEPRA for its approval of the extension of Generation Licence, including any contracts, documents, power of attorney, affidavits, statements, letters, forms, applications, deeds, guarantees, undertakings, approvals, memorandum, amendments, letters, communications, notices, certificates, request statements and any other instruments of any nature whatsoever.

**ATTESTED**

\*\*\*\*\*

  
27-05-2022  
**FARRUKH JAWAD PANNI**  
Company Secretary  
**UCH POWER (PVT) LIMITED**  
Islamabad

# **AFFIDAVIT**

**BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY****AFFIDAVIT**

AFFIDAVIT of Mr. Rodak Ali Iqbal s/o Mohammad Iqbal authorized representative of M/s Uch Power (Private) Limited ("UPL"), 2-B, I&T Center, Sector G-6-1/1, Islamabad

I, the above named Deponent, do hereby solemnly affirm and declare that:-

1. I am the authorized representative of M/s UPL for filing application dated May 30, 2022 ("Generation Licence Extension Application") for extension of the Generation Licence issued to UPL by National Electric Power Regulatory Authority ("NEPRA") and to appear and represent UPL before NEPRA in relation thereto.
2. I declare that the contents of the accompanying Generation Licence Extension Application including all supporting documents and information are true and correct to the best of my knowledge and belief.

DEPONENT

Name: Rodak Ali Iqbal  
Designation: Chief Executive Officer  
Dated:  
Uch Power (Private) Limited



Registered No.....<sup>5848</sup>.....Dated: 20-05-2022.

**Affidavit For NEPRA by UCH Power (Pvt.) Limited**

**JEHANGIR AHMED**  
STAMP VENDER  
Lic No: 613/DRA/2013  
Margalla Block Chamber # 19  
Distl Courts, F-6 Mayraz, Islamabad

20 MAY 2022

یہاں پر کسی بھی قسم کی سرکاری یا نجی کوئی بھی چیز لکھی نہیں گئی ہے۔  
فقط سرکاری اور نجی کے درمیان میں ہی لکھی گئی ہے۔

## **COPY OF PAY ORDER**

Account Payee Only



**HBL** HABIB BANK  
ISLAMABAD-CORPORATE 0874  
HABIB BANK TOWER BLUEAREA ISLAMABAD

B.C. No. 19997025

Stationary No: 19997025

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Pay to NATIONAL ELECTRIC POWER REGULATORY AUTHORITY A/C OF UCH RO  
WER (PRIVATE) LIMITED or Order

Rupees One Million Five Hundred Sixty Two Thousand Nine Hundred

Ninety Nine Only

Payable at any HBL Branch in Pakistan  
Centralised Cheque Payable Account  
30019903902586

Please do not write below this line.

Signature  
**KHURRAM MAJEED**  
Operations Officer (PA # 20119)  
**HBL** Corporate Centre  
ISLAMABAD

Signature  
PA No.

19997025054300100300199039025860107

**BEFORE  
THE NATIONAL ELECTRIC POWER  
REGULATORY AUTHORITY (“NEPRA”)**

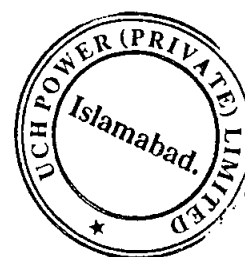
**APPLICATION FOR EXTENSION OF  
GENERATION LICENCE NO. IPGL/014/2003  
DATED AUGUST 26, 2003 OF**



**UCH POWER (PRIVATE) LIMITED (“UPL”)**

**586 MW (GROSS) THERMAL POWER  
GENERATION FACILITY LOCATED AT DERA  
MURAD JAMALI, BALOCHISTAN, PAKISTAN  
BASED ON INDIGENOUS LOW BTU GAS**

**May 30, 2022**



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*Signature*

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**1. REQUEST FOR EXTENSION OF GENERATION LICENCE**

UPL existing generation licence no. IPGL/014/2003 dated August 26, 2003 is expiring on August 25, 2023. Pursuant to the applicable laws of Pakistan, including the NEPRA Act and the rules and regulations made thereunder, including the NEPRA Licensing (Application, Modification, Extension & Cancellation) Procedure Regulations, 2021 and the NEPRA Licensing (Generation) Rules, 2000; the Licencee hereby submits, for the Authority's kind and gracious consideration, this Generation Licence Extension Application for approval of the proposed Generation Licence extension.

The expiry of the UPL Generation Licence essentially corresponds to the expiry of the initial term of the GSA that provides, *inter alia*, for the term of the GSA to be linked to the 23rd anniversary of the COD i.e., October 17, 2023. The GSA, however, expressly provides that twenty-four (24) months prior to the expiration of the term of the GSA, the parties shall negotiate an extension of the GSA. UPL and OGDCL signed a memorandum of understanding for cooperation with each other in FY 2019 in relation to the extension of the GSA after an initial gas reservoir study which indicated gas reserves availability for extension. Subsequently, gas reserves availability for five (5) years was confirmed by OGDCL through an Integrated Reservoir Stimulation Study with a possibility of extending up to seven (7) years. OGDCL has also confirmed to PPIB and UPL the availability of gas reserves beyond 2023 for another five (5) years - OGDCL letter addressed to PPIB is attached as Annexure-A. The parties may agree an additional extension of the GSA beyond October 17, 2028 for another two (2) years.

For UPL extension, WAPDA and UPL also entered into a Settlement Agreement on November 3, 2000, agreed and approved by PPIB, under which initial term of the PPA of twenty three (23) years was agreed to be replaced with thirty (30) years subject to similar amendment been made to GSA, IA and GOBAA (to the satisfaction of UPL and WAPDA). Tariff for the extension period is already agreed in the Settlement Agreement till 2030.

Based on the contractual provisions and gas reserves availability enumerated above, an extension of UPL Generation Licence is requested from the Authority for the period commencing from August 26, 2023 to October 17, 2030 i.e. for seven (7) years one (1) month and twenty three (23) days. The proposed Generation Licence extension would enable UPL in fulfilling its obligations under the PPA by implementing the PPA Term as envisaged under the Settlement Agreement approved by PPIB. It is pertinent to note that UPL ensures strict compliance with the terms of the UPL Generation Licence and undertakes to continue to do so in the future.

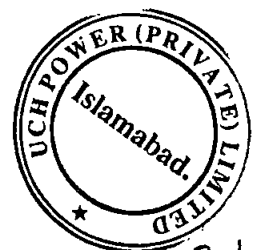
In light of the submissions, the relevant analysis and information contained in this Generation Licence Extension Application, along with the Annexures attached hereto, this Generation Licence Extension Application is submitted (in triplicate) pursuant to the applicable laws of Pakistan, provisions of NEPRA Act, read with enabling provisions of rules & regulations made thereunder, including the National Electric Power Regulatory Authority Licensing (Application, Modification, Extension & Cancellation) Procedure Regulations, 2021 & the National Electric Power Regulatory Authority Licensing (Generation) Rules 2000.

This Generation Licence Extension Application is being submitted with the required generation licence extension fee. In this regard, banker's cheque no.19997025 has been issued in the amount of Rs1,562,999 – net of tax (One Million Five Hundred Twenty Six Thousand and Thirty Eight Only) dated May 27, 2022 (Gross amount of Rs1,698,912) in favor of the NEPRA (copy attached), which has been sent directly to NEPRA through covering letter, of this Generation Licence Extension Application.

In view of the matters set out in this Generation Licence Extension Application, including, without limitation, to ensure that the term of the UPL Generation Licence is revised to ensure its validity until October 17, 2030 Article 4 of the Generation Licence is requested to be amended as follows:

**(1) Pursuant to Rule 5 of the Rules, this Licence is granted for a term of Twenty Seven (27) years One (1) month and Twenty Three (23) days ending on October 17, 2030.**

## UPL SUBMISSION OF INFORMATION





## 2. CORPORATE BACKGROUND

UPL, applicant of this Generation Licence Extension Application, is a private limited company incorporated in Pakistan under the repealed Companies Ordinance, 1984 (repealed Ordinance) which has been replaced by the Companies Act, 2017. The principal activity of UPL is to own, operate and maintain a 586 MW (ISO Gross Capacity) power generation plant, located in the vicinity of Tehsil DMJ, District Nasirabad, Balochistan. UPL achieved COD on October 18, 2000 and is carrying on its operations successfully on a Build, Own and Operate basis. UPL's registered office is located at 2-B, I & T Center, Sector G-6/1-1, Islamabad, Pakistan.

UPLHC-I Limited (Holding Company) and UPLHC-II Limited, holds 99% of the issued, subscribed and paid up capital, i.e., 753,122,691 ordinary shares of Rupees 10/- each and 1% of the issued, subscribed and paid up capital, i.e., 7,607,300 ordinary shares of Rupees 10/- each, respectively. Their registered office is at 2406ResCowork01, 24 Al Sila Tower, Adgm Square, Al Maryah Island, Abu Dhabi, United Arab Emirates.

UPL is fully owned by ENGIE SA (the ultimate parent company) through UPLHC-I Limited and UPLHC-II Limited. ENGIE SA is a multinational electric, gas and water utility company and the world's leading IPP with its presence worldwide and 101 GW installed power generation and a workforce of 170,000 employees while Euro57.9 billion of revenue in FY 2021. ENGIE focuses in its four core activities which includes Thermal Production & Energy Supply, Renewables, Networks and Energy Solutions.

ENGIE's purpose is to act to accelerate the transition towards a carbon-neutral economy, through reduced energy consumption and more environmentally-friendly solutions. The purpose brings together the company, its employees, its clients and its shareholders, and reconciles economic performance with a positive impact on people and the planet.

In Pakistan, ENGIE fully owns UPL and Uch-II. A detailed corporate profile of the parent company is attached as Annexure-B with this application.

## 3. STATEMENT OF REASONS IN SUPPORT OF UPL EXTENSION

UPL is a success story unparalleled amongst IPPs operating in Pakistan. The existing 586 MW (ISO gross capacity) UPS is a gas fired combined cycle power project, on a Build, Own and Operate (BOO) basis, and is located in DMJ, Balochistan with economical, technical, environmental and health & safety and others distinguishing features which entails consideration for granting of generation licence extension to the project.

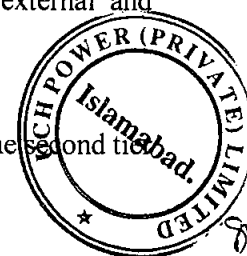
### 3.1 Economics

#### 3.1.1 *Indigenous –low BTU fuel gas based Operations*

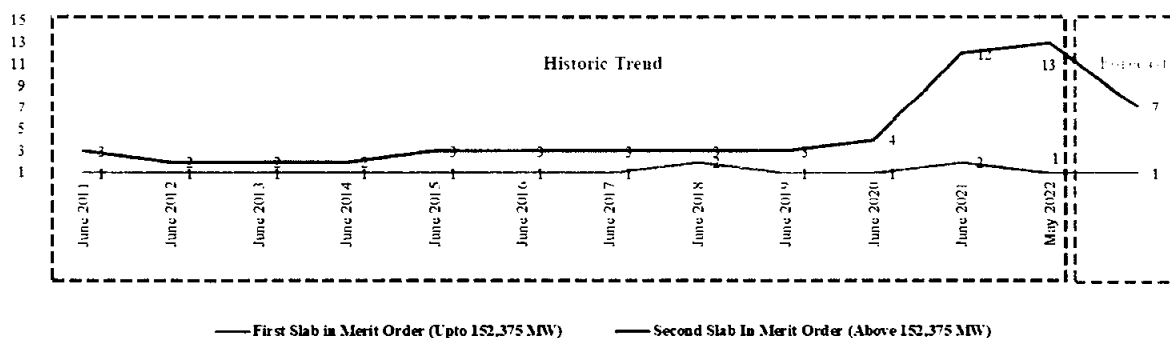
Extension of UPL Generation Licence supports GOP's objective of reliance on indigenization for energy security of Pakistan. UPL is unique amongst other power projects in Pakistan because it is based solely on field-specific, indigenous low Btu natural gas from a dedicated UGF located in Dera Bugti Agency, Balochistan which has no alternative commercial use. The gas field was discovered in 1955 but could only be utilized after the investment by UPL shareholders. Thus, extension of UPL Generation Licence will result in optimal utilization of UGF besides providing a consistent and reliable source of electricity to the national grid. Non or under- utilization of this national resource may leave adverse bearings on the UGF. Furthermore, as the gas is provided to UPL from a dedicated gas field through a dedicated pipeline thus availability of gas is not impacted by external and international market factors like market demand and supply lead time etc.

#### 3.1.2 *Ranking in Merit Order*

UPL has remained at the first position for its first tier in the merit order over the years. The second tier of UPL is also highly competitive.



**UPL Position in Merit Order**



Source: NEPRA SIR, NTDC merit orders, UPL forecast

Please refer to Section 3.1.4 for the increase in second slab in 2021.

**3.1.3 UPL Utilization Factor**

UPL is a base load plant with on an average utilization factor close to 95% over the years – Please refer to section 3.2.1 below for details.

**3.1.4 Overall Cost to the Power Purchaser**

Overall cost to the power purchaser of UPL over the last four (4) years is as follows:

Rs/KWh	2017-18	2018-19	2019-20	2020-21
Overall cost to power purchaser (EPP + CPP) / Energy Delivered	5.71	7.12	7.06	9.17
Ranking among thermal plants	1	1	1	1
Ranking among all power generators	2	4	5	8

Source: EPP, CPP, Energy Delivered data from Table 34 of NEPRA SIR 2021

The increase in FY 2020-21 is mainly due to increase in gas price under the GSA post October 17, 2020 for which UPL and OGDCL were in negotiations to reduce the gas price and recently have reached a consensus on the same which is now being formalized through an amendment to the GSA. Thus, in future the existing energy price will reduce and provide benefit to the consumers and UPL will improve its position further for the second slab in the merit order as depicted in 3.1.2 above.

**3.1.5 PPA Amendment and Master Agreements**

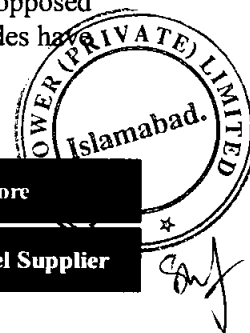
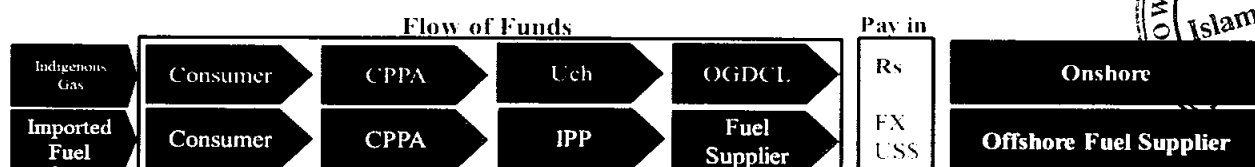
As agreed with other IPPs, UPL is also at advanced stage with CPPA for execution of the drafts of the PPA Amendment and Master Agreements which upon execution will result in further reduction in tariff.

**3.1.6 Foreign Exchange Savings**

The usage of indigenous fuel has tremendously assisted the national economy by saving precious foreign exchange as opposed to other power projects based on imported fuel. Foreign exchange savings though dependent on international oil prices (HSFO), however, a prudent estimate based on average of the historical imported fuel prices approximates a FX saving of US\$200 million per annum. Each 1% increase in the imported fuel price will add a further saving of approx. US\$2.5 million per annum.

**3.1.7 Revenues for State Owned Gas Supplier – OGDCL**

UGF is operated by state owned gas supplier, OGDCL. UPL gas supply is approx. 20% of OGDCL total gas production (over the last 3 years). Revenues for OGDCL ultimately benefits GOP as opposed to imported fuel where offshore fuel suppliers ultimately benefits. UPL over the last two decades have contributed significantly to the revenues of the state owned gas supplier.



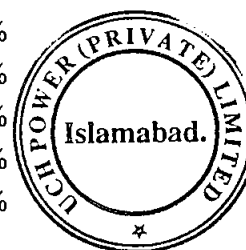
**3.1.8 Availability of Infrastructure**

UPL existing location already has access to fuel and water and interconnection to the national electricity transmission grid. Therefore, UPL extension would not require any further investment in this regard.

**3.2 Technical****3.2.1 Plant****Proven Track Record of Reliable Plant Operations**

Since achieving COD in October 2000, UPS has established a reputation as one of the most reliable source of power for the country. The KPI data of last ten (10) years itself speaks of the excellent track record of its plant operations.

Year	Generation (GWh)	Load Factor (%)	Capacity Factor (%)	Utilization Factor (%)	Plant * Availability (%)
2011-12	4,278.00	88.60%	88.20%	88.59%	91.27%
2012-13**	3,796.00	78.61%	80.60%	98.08%	82.62%
2013-14	4,314.00	89.37%	90.99%	99.09%	91.98%
2014-15	4,126.91	85.93%	87.08%	96.37%	89.17%
2015-16	4,210.83	87.50%	88.38%	93.95%	93.14%
2016-17	4,404.46	91.77%	93.26%	97.30%	94.54%
2017-18	4,442.99	92.05%	93.56%	96.84%	95.16%
2018-19**	3,895.85	80.96%	82.02%	96.79%	83.63%
2019-20**	4,087.33	84.41%	85.32%	94.06%	89.83%
2020-21	4,088.44	84.97%	86.38%	90.17%	94.54%



Source: NEPRA SIR 2021\*

\* Plant availability for the last five years from NEPRA SIR 2021

\*\*The decline in availability in 2012-13, 2018-19 and 2019-20 is due to MI activities carried out during these years.

The above factors depict an outstanding track record of technical operations where the plant is being utilized for more than 95% over the years on an average based on the demand from the power purchaser while ensuring maximum technical availability with an average load factor of around 87% (range of 78.61% to 92.05%).

**3.2.2 National Grid****Grid Stability**

UPL because of its location is also critical for maintaining the required voltage level in the far end areas of Balochistan. Post UPL COD resolved major outstanding issue of low voltage in Quetta city and other parts of Balochistan.

In the past on many occasions UPL has successfully managed to operate in island mode after being

isolated from national grid and successfully managed to supply uninterrupted power to Balochistan until connected to the national grid. Historically, UPS has demonstrated an effective role in power stability of the national grid.

NTDC considering the grid system operational requirements has also categorized UPL amongst the "critically required" power projects with the remarks "Low cost dedicated gas plant" (Letter of NTDC enclosed as Annexure-D – Source: *KAPCO Generation Licence Extension Application*).

With the upgradation of 220KV switchyard at Shikarpur to 500KV switchyard, previous Uch-Guddu 220KV circuit has now become Uch-Shikarpur 220KV line. Grid stability has been increased with the addition of 500 KV switchyard at Shikarpur.

#### *Voltage & Frequency Stability for the Grid*

UPL is supplying the most economical active & reactive power to the national grid in general and to Balochistan in particular.

It is also very important to highlight that as per the recent power evacuation details, throughout the year, around 41% of UPL generation load is directed to fulfil the Balochistan requirements. In summer season, average load demand in Balochistan increases and UPL's 45% to 48% generation is directed to fulfil such requirement.

*Voltage:* Besides sharing significant power, the voltage support to grid and to the feeding area is enormous and vital. It would be difficult rather impossible to feed active power through lengthy transmission network of Balochistan at permissible voltage levels without reactive support being provided by UPL.

*MVARs:* UPL provides 130 to 180 MVARs to the system and thus, improve low voltages in QESCO area. Conversely, in winter, it absorbs +50 to - 50 MVARs from the system and thus, help in reducing high voltages in QESCO area.

*Frequency:* UPS has wide frequency range i.e. 47Hz - 53Hz due to which it remains synchronized with system during any system fluctuations and transients. Also due to this outstanding feature of UPS, it had sustained and supplied power in isolation to Quetta at various occasions.

#### **3.2.3 The Only Facility with Blackstart Capability in the Southern Region**

UPL is the only plant in southern region having a "Black Start Facility" with agreed SOPs with the system operator for "speedy restoration of power" not only in Balochistan but to the national grid through 500 KV transmission lines from Shikarpur grid in case of any local or widespread power disturbance or "country-wide power failure" and can operate in island mode operation until connected to the national grid.

#### **3.2.4 No Constraints on Power Evacuation**

N-1 contingency is available at UPS and in case of any disruption / tripping of any transmission line, the rest of the transmission lines are capable to evacuate full power of UPL to the national grid hence no dispatch constraints. Without UPL power, Uch Sibbi direct, Uch Sibbi via DMJ grid and Uch Shikarpur 220 kV transmission network will be underutilized.

#### **3.2.5 IGCEP**

OGDCL vide its letter no. CE-486/2021 dated September 10, 2021 amongst other things has stated to the Authority in the matter of IGCEP to reconsider the Uch capacity utilization factors, appearing in the IGCEP till 2030, to secure the Uch Gas Reservoir as well as to avoid wasteful flaring of gas in the best interests of the country and all stakeholders. OGDCL stated that Uch gas has low calorific value but high concentration of acid gases like CO<sub>2</sub>, N<sub>2</sub> & H<sub>2</sub>S therefore this gas is fit only for power generation. The need of its optimal utilization due to presence of the aquifer influx in the best interests of the country and all stakeholders was emphasized (Letter attached as Annexure- C). Thus, considering no other commercial use and presence of the aquifer, the gas field will go to waste if not optimally utilized.

The Authority, in its determination dated September 10, 2021, also gave consideration to OGDCL letter with the remarks that “.....The Authority has also observed that some of the existing power plants using indigenous low BTU gas, will have relatively low despatch due to the induction of the low cost wind and solar power plants. OGDCL, which is operator of the UCH gas field located in the district of Dera Murad Jamali in the province of Balochistan, has highlighted that this reduction in the plant factor will not be suitable as the aquifer there may overtake the available gas. In this regard, the Authority considers that the indigenous low BTU gas should be utilized in an optimum manner for which necessary coordination between different agencies should be ensured to capitalize on this cheaper natural resource of national importance which has the best utilization in producing cheaper electricity.”

UPL Generation Licence Extension will help in optimum utilization of the UGF in the best interest of the Country and all the stakeholders. This aspect is of particular importance as also mentioned by the Authority in the above mentioned remarks i.e., capitalizing on cheaper indigenous resource.

### **3.3 Environment and Health & Safety**

#### **3.3.1 Environment Friendly Plant Operations – Award Winner**



UPL is one of the leading thermal power generation company in Pakistan, which operated its power plant by undertaking the best international environmental practices since its inception under the ambit of Pakistan Environmental Protection Act 1997 and NEQS. UPL is a unique thermal power generation facility having following unparalleled environmental attributes;

- Utilization of low BTU natural gas with specially designed combustion mechanism for its GTs without losing inherently designed efficiency.
- NOx emissions as low as the order of 18 times compared to NEQS benchmark.
- Zero liquid effluents facility with no wastewater discharge to outside waterbody / rivers or canals etc.

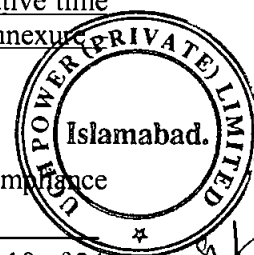
UPL has successfully demonstrated consistent compliance to all the applicable national and international environmental regulations and acquired (EMS) ISO 14001 Environmental Management System in 2010 and have successfully exhibited constant compliance and maintained its 3rd party (Lloyds Registered Quality Assurance) a United Kingdom Accreditation System (UKAS), Certification without a single nonconformance.

UPS air and waste water emissions to the environment is at its minimum in relation to the NEQS benchmarks (Please refer to Annexure-E for details). This particular attribute of the plant is most suitable for its future operations in this particular area having minimal environmental impacts against NEQS benchmarks.

UPL has won “Environmental Excellence Awards” accorded by NFEH for the 6th consecutive time since 2016. As a whole UPL has won this award seven (7) times. Latest award attached as Annexure E.

#### **3.3.2 Emission Values**

The plant design and operational methodology plays a key role in environmental compliance



throughout its lifecycle. The plant's O&M team, cognizant of the foregoing fact, developed "Environmental Management System - EMS" by systematically identifying all the environmental aspects associated with plant operations and produced relevant procedures to mitigate the impacts. The basic and foremost step in this process involved conducting EIA (Environmental & Social Soundness Assessment) through independent environmental consultants in 1995. Based upon this comprehensive EIA, UPL got the environmental approval / no objection certificate from BEPA in October 1995.

The attached "Quarterly Environmental Monitoring Reports", pertaining to the last five (5) years, submitted to BEPA are testimony to UPL's outstanding environmental compliance (Annexure - E).

### **3.3.3 High Safety Standards – Award Winner**

UPL is a market leader in Pakistan when it comes to OHS compliance and exceptional performance since day one. UPL not only developed and implemented its OHS management system since beginning but constantly demonstrated excellent compliance and very impressive numbers on its "Safety Board of Honor".

The high standards being followed are demonstrated by the recent successful completion of 12.6 million man hours without a LTA. The biggest testimony of UPL exceptional and outstanding OHS performance is the accord of "HSE Performance Excellence Award 2021" by NEPRA where UPL secured Bronze award for its exceptional HSE performance among over 170 contenders (Annexure-F). Besides this, UPL also secured the fire safety award many times by NFEH including 2021.

OHS compliance is part and parcel of each and every activity that we do to operate the power plant through a written and well worked out risk assessment from start to the end. UPL's highly trained and experienced team undertake many personal and departmental OHS objectives to keep itself on forefront of its safety performance. UPL believes in human capital development, through training and skills development program. In this regard the OHS trainings and awareness is a major area of focus for its team members.

To keep abreast with latest and world class OHS knowledge the team undertakes some exceptionally high class OHS trainings each year like IOSH Managing Safely and IOSH working Safely through its own OHS leadership. OHS processes and systems in place includes the following:

- Certified ISO: 45001:2018 Occupational Health & Safety Management System
- Safe System of Work (SSOW) Program
- Safety Rules and Authorization of personnel
- NiSoft Eclipse - Electronic LOTO Permit to work system
- Operational Excellence suite
- Process Safety Management System
- HAZOP Analysis

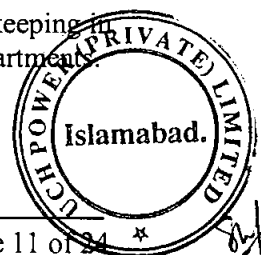
After issuance of NEPRA Power Safety Code 2021 for all its licencees, UPL has also successfully implemented this very important regulation in its OHS management system.

Summing up all, UPL is top of the line in industrial safety standards making it one of the safest power plant in the country where OHS is regarded as its top most priority in all areas of business.

## **3.4 Other Benefits**

### **3.4.1 Community Development**

Social uplift of a remote area through CSR activities in the fields of health, infrastructure, education and emergency relief (COVID-19, floods, earthquakes). Main focus remains on education and health where these projects are undertaken through a robust and transparent selection mechanism keeping in view high priority needs of the local population while coordinating with respective GoB departments.



**Education**

Over the years, UPL has constructed and provides operational support to four (4) schools (3 primary and 1 secondary) in DMJ in collaboration with The Citizens Foundation on the land provided by the GOB. To-date, over 15,500 students from DMJ and adjacent towns / villages have received quality mainstream education at a notional fee in these schools.

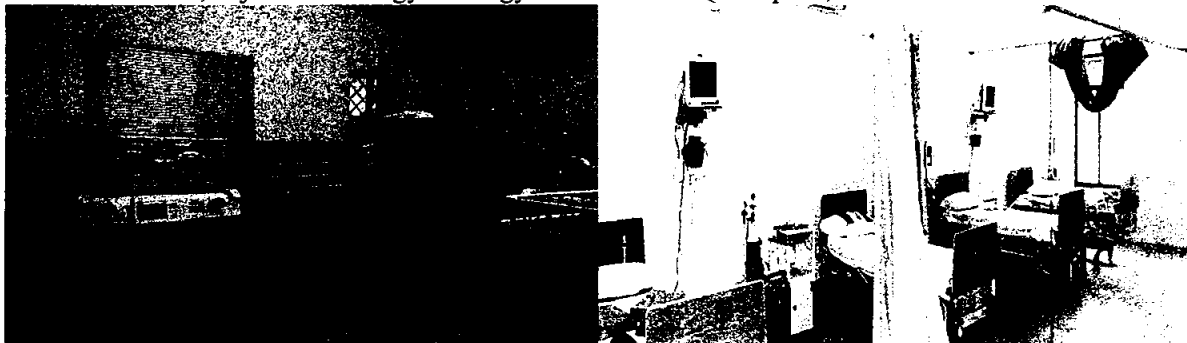


UPL has also contributed towards improving laboratory, sanitary and classroom facilities of local schools/colleges as part of its CSR activities in an attempt to improve the educational and learning environment for the students and has also donated a bus to girls degree college DMJ.

Furthermore, UPL has initiated a one year fully funded graduate training program at UPS for development of candidates from Balochistan. The program provides young graduates and diploma holders on-job training at the power station facility including generous stipend and boarding and lodging allowances – 70 trainees have been enrolled to-date.

**Health**

UPL constructed and provides partial annual maintenance and operational support of a fully equipped, solar powered, fourteen (14) bed modern emergency care center (Trauma Center) at DHQ Hospital, DMJ besides donating three (3) fully equipped ambulances. A fully equipped neonatal nursery was constructed at DHQ Hospital, DMJ, to upgrade the hospital's capacity to care for newborn infants. Considering the local norms and culture of the community - UPL has also constructed a twelve (12) bed female ward, adjacent to the gynecology section at DHQ Hospital, DMJ.

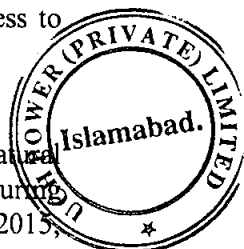


Eye camps and medical camps in DMJ and adjacent villages are arranged which provides free checkups, hepatitis screening, prescription glasses and eye surgeries to over 2,500 patients each year. Recently, as an alternate to holding eye camp, UPL developed a small facility for LRBT. UPL funds operational cost for checkups and surgeries of patients from DMJ including travel costs to LRBT's facility.

Construction and maintenance of thirteen (13) water filtration plants for increased public access to clean drinking water is availed daily by 30,000+ residents.

**Natural Calamities / Disaster Relief Activities**

UPL has always remained at the forefront of supporting government relief efforts during natural calamities over the years. This includes relief supplies (tents, blankets, medicines & food) during floods of 2003, 2005, 2007, 2008, 2010 and 2012, and earthquakes in 2005, 2008 and 2013. In 2015,

*Sony*

UPL also contributed to the National Disaster Management Fund for internally displaced people and flood affectees.

Recently, in 2020 and 2021, UPL's COVID-19 efforts were focused on providing assistance to the federal, provincial and district government in addition to mobilizing direct support to the vulnerable segments of DMJ. Being a responsible corporate citizen UPL responded to the government's request for assistance by donating to both the federal and provincial COVID-19 relief funds.



UPL's generation licence extension will definitely help in continuing support to the local community.

### **3.4.2 Benefits to Balochistan (Economic Activity & Development)**

The presence of UPL has engendered economic activity in the province of Balochistan due to the creation of direct and indirect jobs for the locals as well as ensuring the payment of taxes and flow of additional sources of revenue. It is important to highlight that vendors registered with UPL and OGDCL are also generating revenue for GOB in the form of indirect taxes.

### **3.5 Closing Statement**

To summarize, UPL is a unique power project which is field specific, with no external and international constraints like market demand and supply lead time etc, and is based on low BTU natural gas of no other commercial use thus requiring its optimal utilization to safeguard this indigenous resource and providing economical and reliable electricity to the national grid. Extension of UPL generation licence will also assist the national economy through foreign exchange savings for the country and revenues for state owned OGDCL. In addition to its proven track record in terms of reliability, the Plant is significant for the national grid in terms of power evacuation and Province of Balochistan. UPL is amongst the award winners when it comes to environment and health & safety and is top of the line in industrial safety standards, which makes it one of the safest power plants in the country. Further, UPL, as a responsible corporate citizen, has played an important part in the uplift and development of the local community through the implementation of a robust CSR program.

**Thus, the economical, technical, environmental, safety and socio-economic track record of UPL clearly demonstrates that extension of UPL is in the best interest of the consumers and all the stakeholders and will add to reliance on indigenous resources and is environment friendly with excellent OHS records.**





**4. GE CERTIFICATION – USEFUL LIFE OF PLANT**

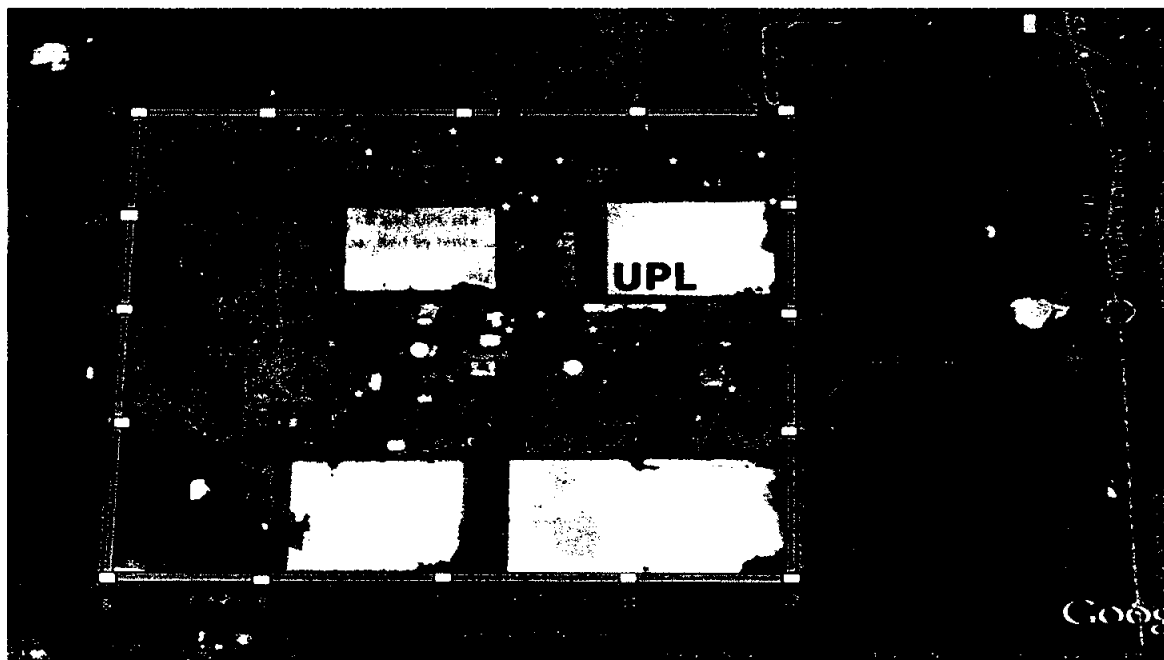
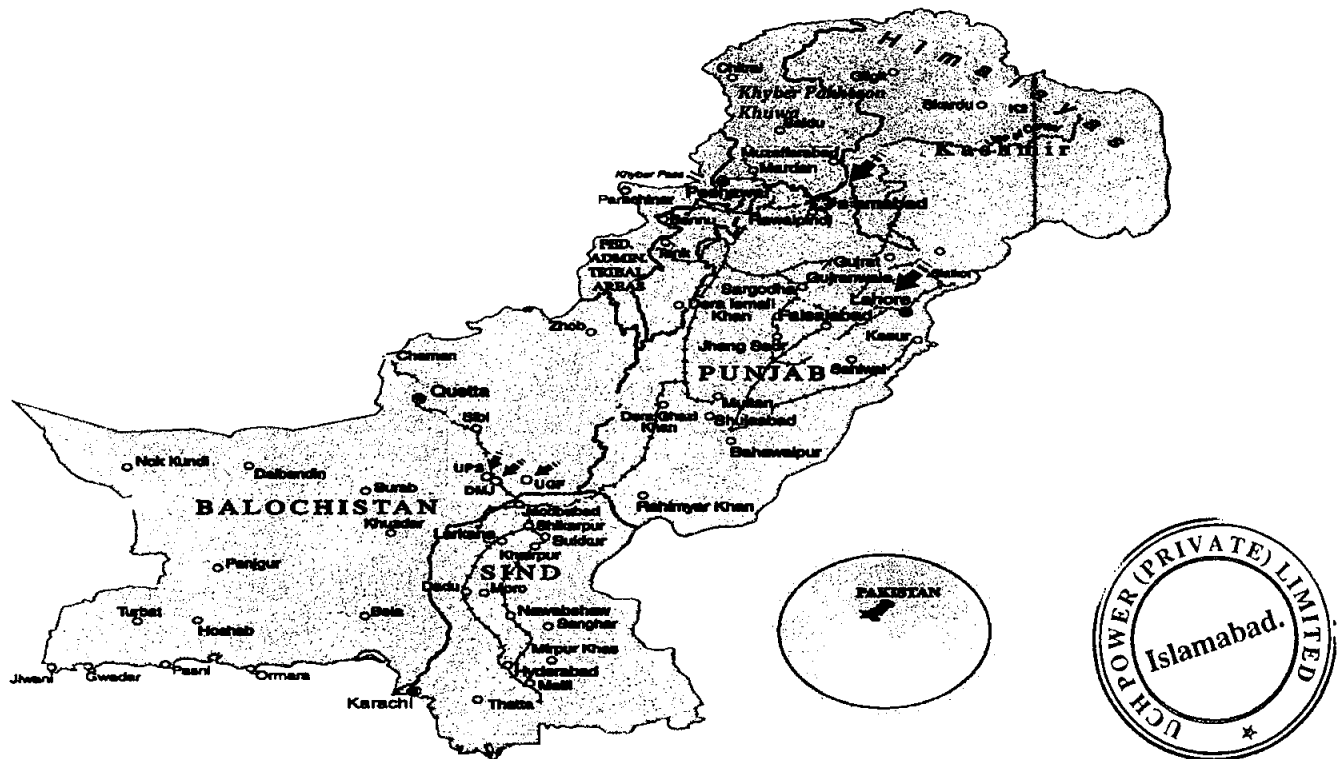
A certificate from GE, OEM and LTPSA service provider, is attached as Annexure-G to the application which certifies healthiness and useful life of the plant for over thirty (30) years.



## 5. GENERAL INFORMATION

### 5.1 Location (location maps, site map, land)

The plant is located near DMJ, Nasirabad in Balochistan within a site close to the NH65 road from Jacobabad to Quetta.



The plant occupies a land area of 696 acres. The location provides convenient access to fuel and water and interconnection to the national electricity transmission grid.

### 5.2 Technology, Size of the Plant, Number of Units

The combined cycle plant comprises of three (3) GTs, three (3) HRSGs and one (1) ST with a total ISO gross capacity of 586 MW.

The GTs exhaust ducts are equipped with bypass stacks with blanking plates inserted and bolted for combined cycle mode operation. Primary fuel used is gas with low calorific value from the nearby UGF. HSD is used as secondary fuel for startup and shutdown. Each GT is designed to provide approximately 126 MW of electrical power when burning low BTU gas and approximately 118.5 MW when burning distillate fuel oil at ISO condition. The GTs exhaust gases flow into the associated HRSG, which is of the triple pressure design, HP, IP and LP. Heat recovered from the exhaust gas is used to heat water and generate steam in the HRSG to power the ST generator. The associated generators deliver power at 11.5 KV to the primary of unit step up transformer and its secondary voltage 220 kV connects to the grid.

The ST and associated generator were manufactured by GE. The ST is a 17 stage HP/LP design with a single flow HP cylinder with IP admission and a double flow LP cylinder with a water cooled condenser underneath. The generator is hydrogen cooled having a nominal voltage of 15 KV which is stepped up to 220 KV by unit transformer, and connects to the 220kV grid.

### 5.3 Fuel (type, imported/indigenous, supplier, logistics, pipeline etc.)

UPL is based solely on field-specific, indigenous low BTU natural gas from a dedicated UGF located in Dera Bugti Agency, Balochistan - 50 kilometers east of the town of DMJ. Low BTU gas is supplied under the GSA from the UGF to the project site through OGDCL's 26 inch diameter pipeline. The UPS is located approximately 5 kilometers to the north of DMJ along the national highway that links Jacobabad of Sindh Province to the cities of Sibbi and Quetta in the province of Balochistan.

OGDCL gas delivery station (owned by OGDCL) is located within a fenced area of UPL site. It comprises of pig receiving station, four gas filtering units (three in service and one standby) which filters out condensate and debris. Downstream of filters is the metering station.

The fuel calorific value contractually is 455 BTU/Scf + or - 25 BTU /Scf. OGDCL is responsible to supply custody transfer measurement at the plant inlet. Instrumentation for measurement of the gas inlet pressure, volume corrected for compressibility, temperature, and calorific value is provided by OGDCL with readout in the CCR. Pressure at the inlet to the plant will be 750-psig maximum, 450-psig minimum.

The gas heating plant comprises a scrubber vessel and two 50% water bath heaters along with pressure control valves, which raises the fuel gas temperature before being supplied to gas fuel header to GTs. In addition a dedicated gas scrubber unit is installed at each combustion turbine with dual strainers and pressure control valves before gas is supplied to the GTs fuel governing system.

Gas quality and composition is continuously monitored by an online gas chromatograph located within the gas receiving station compound. Hydrogen Sulphide (H<sub>2</sub>S) levels contractual limit is 15ppm.

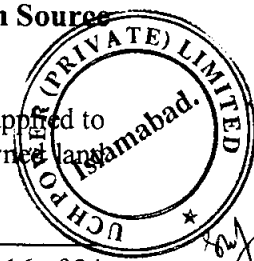
HSD oil is required for start-up and shutdown of the combustion turbines. In the startup process after 65 MW GT load conversion from HSD to low BTU gas takes place and then onward GTs operate on fuel gas only. Similarly in the shutdown process fuel transfer from gas to HSD liquid fuel takes place after 65 MW. Transfer from liquid fuel to gas and gas to liquid fuel takes place on line and can be automatic or manually controlled.

Oil deliveries are by road tanker but are infrequent as oil usage is low. The oil is stored in two tanks each of which has a capacity of 12,000 m<sup>3</sup>.

### 5.4 Cooling Water Source (tube wells, sea/river/canal etc.) and Distance from Source

#### 5.4.1 Water Systems

The Pat Feeder Canal off takes from right bank of Indus River at Guddu barrage. Water is supplied to the site from the Pat Feeder Canal approximately 3km from site via pipeline in existing owner's name.



corridor through GOBAA.

To meet the requirements of the PPA and to manage water requirements during the Pat Feeder Canal closure a lined raw water storage and settling pond has been built at UPL site. The capacity of the water storage pond is approximately 915,987 m<sup>3</sup>.

Water is supplied from the settling pond via two vertical pumps to two 100% duty clarifiers where flocculant is added. The clarified water is forwarded via a surge tank for cooling water make-up, to the service and fire water tank and to the potable water plant. The potable water systems are injected with Sodium Hypochlorite. Potable water is used throughout the plant and colony for drinking water, bathrooms, and emergency showers and eyewashes through overhead concrete storage tank.

The water treatment building also contains dosing systems for the clarifier flocculant, and for inhibitor and pH control for the cooling towers.

#### **5.4.2 Cooling Water**

Cooling for the ST condenser is provided by a closed circuit system with make-up obtained from the water pre-treatment plant. The cooling tower is a twelve cell, low rise, counter flow, mechanical induced draught evaporative cooling designed and manufactured by GEA Shanghai Cooling Tower Ltd. Cooling tower structure is concrete with aerodynamic European made light weight high efficient fan blades.

#### **5.4.3 Demineralized Process Water System**

The water treatment building has two streams of capacity 90 m<sup>3</sup>/h, each with carbon filter, cation bed, weak and strong anion beds and mixed bed. The normal usage rate for operations was reported as around 11m<sup>3</sup>/h. Regeneration of the resin beds uses HCl and NaOH which is stored in bunded tanks. Deliveries of these chemicals use differing hose connection to avoid inadvertent mixing. It was understood that, in addition to the normal service water supply, water can also be supplied to the water treatment building directly from the supply from the canal.

#### **5.4.4 Waste Water Treatment**

Disposal of treated wastewater is through an evaporation pond. Inflows to this pond include power plant discharges (i.e. cooling tower blow down and low volume wastewaters) as well as the treated sewage effluent. The evaporation pond covers a total water surface area of approximately 12.5hectares.

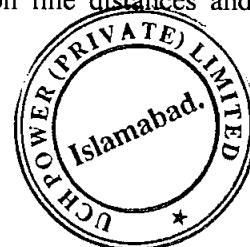
The facility also incorporate a treatment basin to treat low-volume wastes (chemical drains and demineralized regeneration wastes) prior to discharge. Treated low- volume wastes and cooling tower blow down is discharged to a wastewater recovery basin from where it is pumped to the evaporation pond.

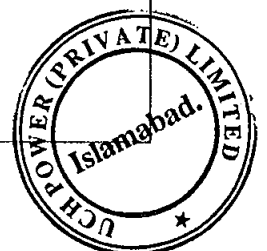
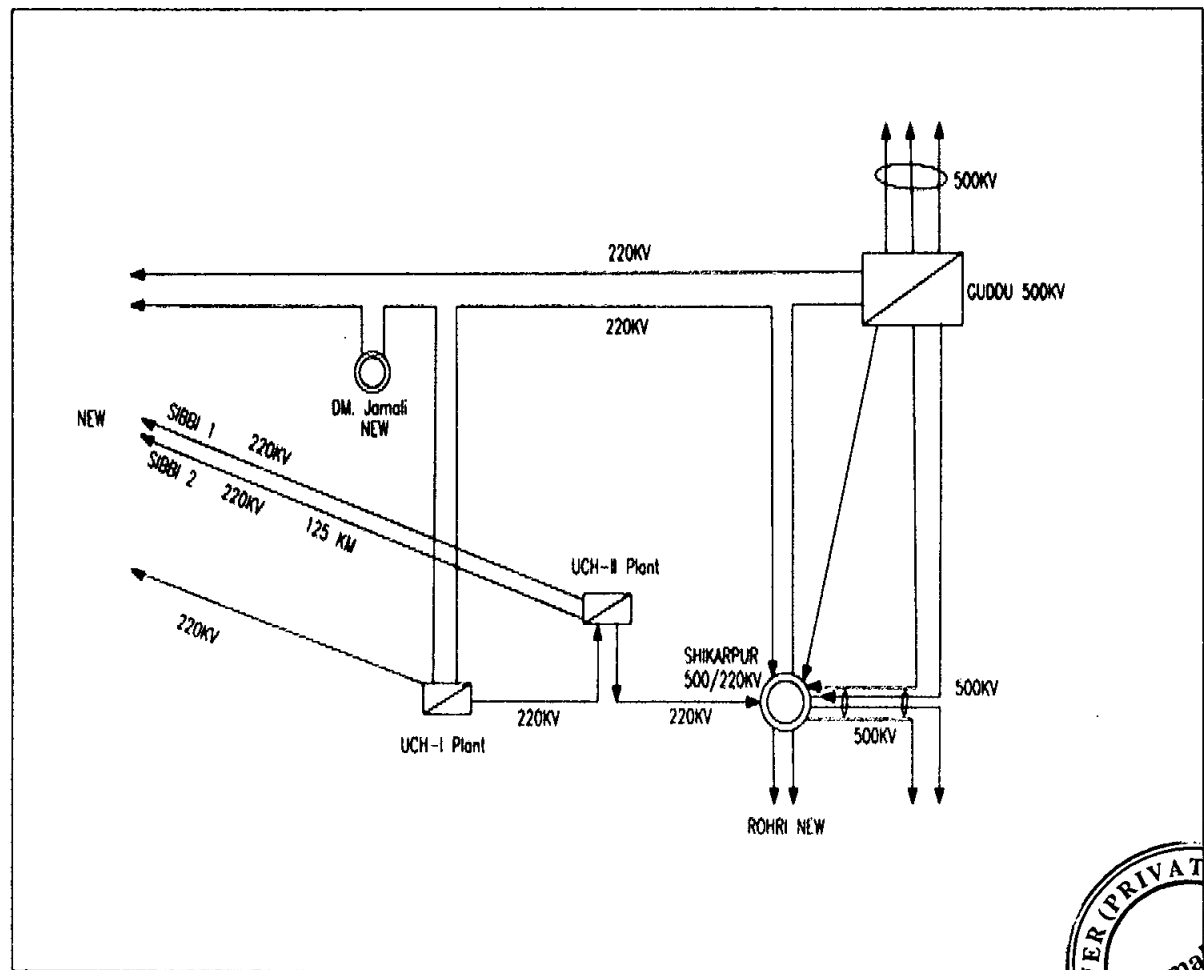
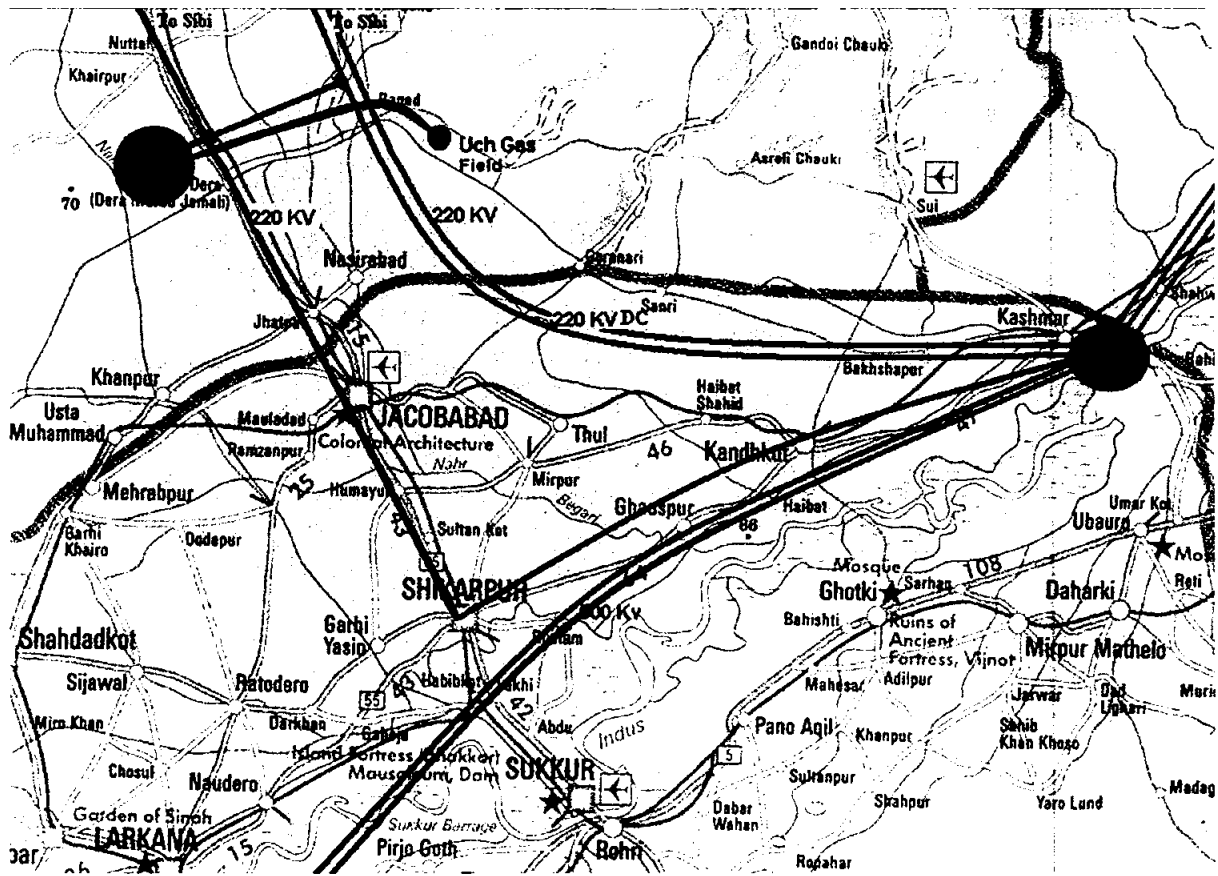
### **5.5 Interconnection with National Grid Company**

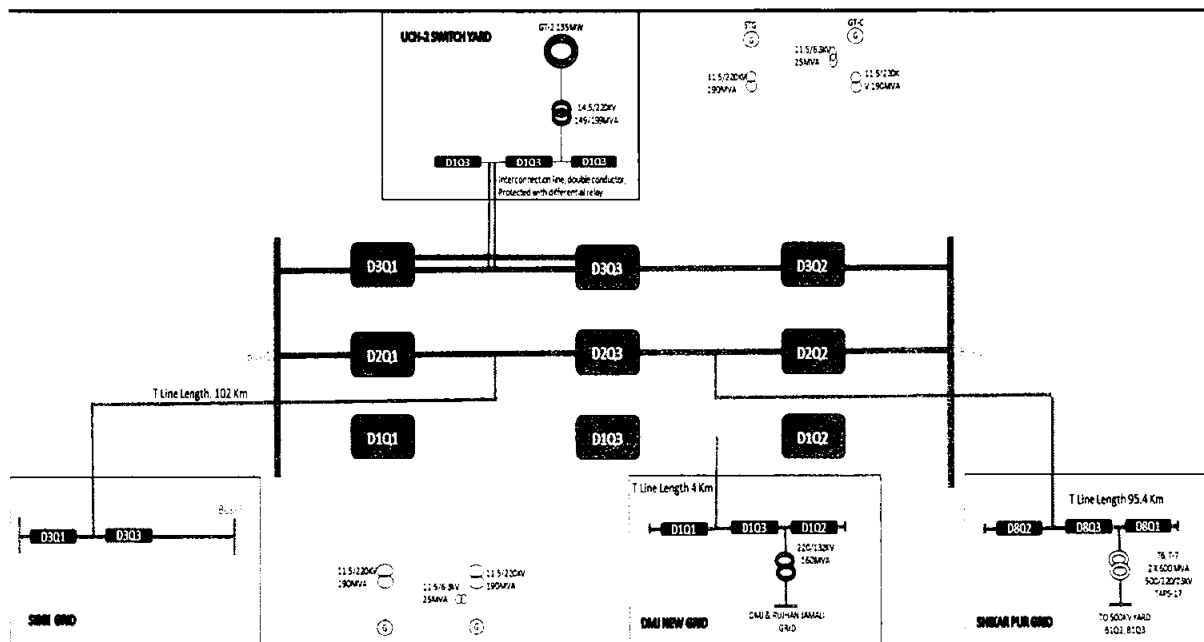
Details of interconnection with the National Grid Company are as follow:

- |      |                     |                    |                  |
|------|---------------------|--------------------|------------------|
| i.   | Transmission Line : | Uch-I to DMJ       | Distance: 4km    |
| ii.  | Transmission Line : | Uch-I to SIBBI     | Distance: 102km  |
| iii. | Transmission Line : | Uch-I to Shikarpur | Distance: 95.4km |
| iv.  | Transmission Line : | Uch-I to Uch-II    | Adjacent Plant   |

UPL is connected with National Grid at Sibbi grid via Uch1- SIBBI 220 KV transmission line and at Shikarpur grid via UchI – Shikarpur 220 KV transmission line. Transmission line distances and voltages are also stated in below figure.

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These lines are sufficient to off-take all power from UPS with N-1 contingency planning.

## 5.6 Installed Capacity and Expected Remaining Life

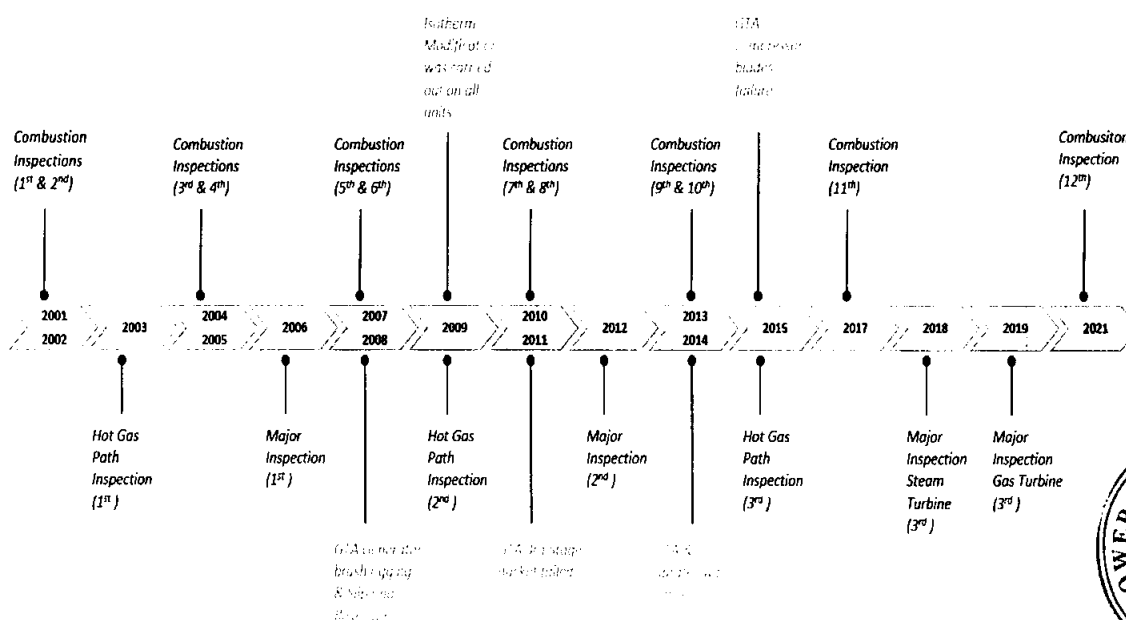
The gross installed capacity is 586 MW (ISO) and the expected (estimated) life of the plant is well over thirty (30) years assuming normal operation and maintenance and allowing for reasonable wear and tear. A "Certificate of Fitness" in this regard is enclosed as Annexure-G with this application.

### 5.6.1 Past and Future Rehabilitation Plans and Programs

Maintenance regime comprises of GTs maintenance by OEM under a LTPSA. There are three main categories of inspection, namely CI, HGPI and MI which are undertaken by GE periodically under the LTPSA.

GE has undertaken routine periodic inspections of the UPL GTs, ST and associated Generators installed at UPS as recommended by OEM and the same are in good working condition for future with continued inspections in line with OEM guidelines.

UPL GTs, ST, Generators inspection and maintenance history is as follow:



### 5.6.2 Maintenance Management

UPL utilizes MAXIMO a computerized maintenance management system (CMMS) to schedule and track completion of all operations and maintenance tasks. Periodicity and scope of tasks are defined based on the OEM recommendation and prudent practices, complimented by seasoned experts.

There are a number of industry approaches and sophisticated software for establishing maintenance programs for power islands (GTs, ST & HRSGs) and balance of plant systems. These approaches include running to failure, maintenance as per OEM provided guide lines, and reliability centered maintenance / predictive maintenance, and other variations that utilize failure causes and the value of the hardware in establishing maintenance priorities.

UPL follows a proactive maintenance regime where the programs focus on preventive and predictive maintenance approaches to ensure reliability and availability of the plant equipment.

## 5.7 Plant Characteristics

### 5.7.1 GTs

Key GTs characteristics, are summarized in the following Table:

Unit	GTA	GTB	GTC
<b>Turbine Manufacturer</b>	GE	GE	GE
<b>Type</b>	PG 9171E Frame E	PG 9171E Frame E	PG 9171E Frame E
<b>Year of Manufacture / installation</b>	1998 / 1999	1998 / 1999	1998 / 1999
<b>Nominal Speed</b>	3,000 rpm	3,000 rpm	3,000 rpm
<b>Rated Capacity</b>	126 MW	126 MW	126 MW
<b>Pressure Ratio</b>	12.6:1	12.6:1	12.6:1
<b>Reference Site Conditions</b>	27.3°C, 48.5% RH & 1006 mbar	27.3°C, 48.5% RH & 1006 mbar	27.3°C, 48.5% RH & 1006 mbar
<b>Main GT Fuel</b>	Low CV Natural Gas	Low CV Natural Gas	Low CV Natural Gas
<b>Start up GT Fuel</b>	HSD	HSD	HSD

### 5.7.2 HRSGs

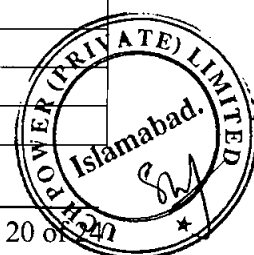
Key HRSGs' characteristics, as provided, are summarized in the following Table:

Unit	HRSGA	HRSGB	HRSGC
<b>Manufacturer</b>	Deltak	Deltak	Deltak
<b>Year Build</b>	1997/1998	1997/1998	1997/1998
<b>HP Pressure (M.A.W.P)</b>	1600 Psig	1600 Psig	1600 Psig
<b>HP Steam (Capacity)</b>	460,000 Lbs/Hr	460,000 Lbs/Hr	460,000 Lbs/Hr
<b>LP Pressure (M.A.W.P)</b>	50Psig	50Psig	50Psig
<b>LP Steam Capacity</b>	19,400 Lbs/Hr.	19,400 Lbs/Hr.	19,400 Lbs/Hr.

### 5.7.3 ST

Key characteristics of the ST, as provided, are summarized in the following Table:

<b>Manufacturer</b>	GE
<b>Turbine Number</b>	270T357
<b>Year / Type</b>	1998 / C7
<b>Stages</b>	17
<b>Speed / Gross Output</b>	3000rpm / 204.2975 MW
<b>Pressure/ Temperature</b>	1289 Psig/959 °F
<b>Exhaust Pressure</b>	2.6 in Hga



**5.7.4 Electric Generators**

All GTs and ST generators are hydrogen cooled. Stator and rotor insulation are rated as IEC34 Class F with Class B temperature rise. The generators are equipped with static excitation, slip rings and brushes transmit the field current from the static excitation system to the rotating field winding.

Key characteristics of the GT generators and ST generator, are summarized in the following Table:

Unit	GTGA	GTGB	GTGC	STG
Manufacturer	GE	GE	GE	GE
Year of manufacturing	1996	1996	1996	1996
Year of Installation	1998	1998	1998	1998
Model #	9H2	9H2	9H2	324 9H2
Serial #	335x979	335x977	335x978	290T357
Rated Output at 40oC	148.5 MVA	148.5 MVA	148.5 MVA	240.3 MVA
Nominal Speed	3,000 rpm	3,000 rpm	3,000 rpm	3,000 rpm
Frequency	50 Hz	50 Hz	50 Hz	50 Hz
Stator Voltage	11.5 kV	11.5 kV	11.5 kV	15 kV
Stator Current	7,455 A	7,455 A	7,455 A	9,251 A
Insulation Class	F	F	F	F
Power Factor	Lagging 0.85	Lagging 0.85	Lagging 0.85	Lagging 0.85
Field Current	1,293 A	1,293 A	1,293 A	1,332 A
Coolant	Hydrogen	Hydrogen	Hydrogen	Hydrogen

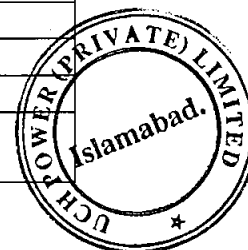
To enhance reliability Generators intermittent on line partial discharge monitoring (PD Tech system) was installed on all machines during 2009, downloads are being sent to the OEM for review annually.

**5.7.5 Unit Step up Transformers**

For Power transmission to the 220kV grid, GT generators GTA, GTG B, GTC are connected to unit step up transformers (11.5/220 kV) via enclosed three phase isolated bus ducts (IPB). STG is connected to unit step up transformer (15/220 kV) via 3-phase isolated bus ducts IPBs. The HV terminals of all unit transformers are connected to their dedicated bay in the 220 kV switch yard via overhead lines.

The main characteristics of the transformers are summarized in the following table.

UNIT	Unit Step up Transformer GTGA/GTGB/GTGC	Unit Step up Transformer STG	Aux Transformers
Manufacturer	Shenyang	Shenyang	Shenyang
Rated Output at 46oC	190 MVA	300 MVA	25 MVA
Voltage	11.5/220 kV	15/220 kV	11.5/6.3 kV
Frequency	50 Hz	50 Hz	50 Hz
Tap Changer	On Load	On Load	Off Load
Vector Type	YN,d11	YN,d11	D,yn11
Cooling	ODAF	ODAF	ONAF
Year of manufacturing	1997	1997	1997

**5.7.6 Plant Auxiliary Electricity**

Two unit auxiliary transformers supply the 6.3 kV switchgear associated with the GTs, the ST and transformers feeding plant auxiliaries. The unit auxiliary transformers are each connected to the IPB of the associated GT between the generator circuit breaker and the 11.5kV.

	Manufacturer	Year	Prim/Sec Voltage	KVA	Cooling Type
Auxiliary Transformer	Shenyang	1997	11.5/6.3 kV	25,000	ONAN/ONAF



GTB					
Auxiliary Transformer GTC	Shenyang	1997	11.5/6.3 kV	25,000	ONAN/ONAF

#### 5.7.7 *UPL Black Start Capability*

UPL is equipped with 3.2 MW diesel generator connected to the 6.3 kV switchgear for providing power to plant auxiliaries in order to black start the GT to restore power to local grid network in black out condition. The generator has a double ended diesel drive arrangement with Caterpillar engines driving a Kato alternator.

#### 5.7.8 *Emergency Diesel Generator*

A separate emergency diesel generator of 450kW is also provided for safe run-down of the plant in case of grid power failure.

#### 5.7.9 *Plant DC System*

Each gas and ST unit is equipped with a 125VDC distribution system which is fed from a 100% battery charger/battery combination. The 125VDC distribution system is used to supply all the feeders for the emergency oil systems of GTs and ST. The following auxiliary systems are also fed from the 125VDC system: Control building. The building is a reinforced concrete construction and houses the switchgear, the main motor control centers for 6.3k V and 400 V motors and computers.

The plant's control systems are managed through a DCS that interface with controllers for the GTs and the balance of plant control systems. It is based on software provided by ACS running on hardware provided by Metso Automation. The DCS room is adjacent to the control room with both located on the ground floor of the CCR Building.

The GT's Speed Tronic MkV controllers and balance of plant control systems interface with DCS.

### 5.8 **Experienced and Competent Work Force**

UPL has employed and maintained at site enough technically competent expertise to ensure safe and reliable operation of the UPS and availability of the same as soon as it goes off line.

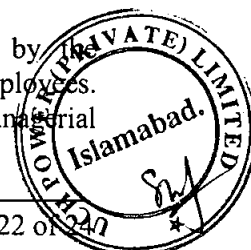
Three independent departments Operations, Maintenance and Technical services are established, headed by technically competent Senior Managers and Managers having a relevant field experience of 10 to 25 years. Plant management include Plant Manager, Deputy Plant Manager, Senior Manager Operations, Senior Manager Maintenance, Senior Manager HSE, Manager TSD and Manager Operations are professional engineers and have technically competent expertise with relevant experience between 15 to 30 years. Other proficient engineers include section heads in Electrical, Mechanical, Instrument & Control Maintenance sections and Shift Operations and Technicians and field and CCR operators as their support staff having field relative experience of more than 5 -10 years.

### 5.9 **Trainings & Development**

At UPL, we invest in our people's development. Our training philosophy is to identify gaps, provide opportunities to plug them and ensure that our fresh graduates to seasoned professionals have access to a range of development opportunities at every stage of their career.

UPL identifies, facilitates, and sponsors the participation of employees in domestic and international training programs. Furthermore, on-job and in-house trainings are also conducted utilizing company's resources or by highly qualified professional consultants. In this pursuit we also support our employees with online courses and resources.

Learning & Development is based on consolidated development plan recommended by department managers, in accordance with the current and required proficiency level of the employees. Training programs are then selected to ensure that core, job specific, soft, and managerial



competencies are not only consistent with employee's existing roles, but also prepare them for future opportunities. Through our continuous efforts we ensure that the learning experience of employees at UPL is truly exceptional

As a succession planning in order to ensure that the plant is in the safe hands, a customized on line training program is in place. Relevant training modules are assigned to each individual to complete in a year and record is kept as a history like who has completed what training. In addition, field operators are encouraged to sit on the desk in control room in presence of CCR operator to have hands on experience on the job training.

Below are the details of OHS trainings in place:

- UPL holds IOSH UK licence and have IOSH Certified trainer & IOSH Tech membership.
- IOSH Managing & IOSH Working Safely trainings for management & staff & contractors.
- CoSHH Management (Control of Substances Hazardous to Health)
- Safety Rules Trainings
- Safety Media Online Training Safety Suite (Certified by Royal Society for Prevention of Accidents – RoSPA UK)
- Well trained basic & advance fire and Emergency response teams
- All employees trained in Basic First Aid and advance life support
- HAZID and POWRA implementation for constant risk assessment

In addition the OHS objectives are part of personal performance and appraised each year with 30-35% of overall individual performance.



A handwritten signature in black ink, appearing to be "Suf".

## GLOSSARY

Abbreviation	Name / Term	Abbreviation	Name / Term
BEPA	Balochistan Environmental Protection Agency	LTPSA	Long Term Parts and Services Agreement
BTU	British Thermal Unit	MDQ	Maximum Daily Quantity
BOO	Build, Own and Operate	MI	Major Inspection
CCR	Central Control Room	MW	Mega Watt
CI	Combustion Inspection	NEPRA / Authority	National Electric Power Regulatory Authority
COD	Commercial Operations Date	NEQS	National Environmental Quality Standards
CPP	Capacity Purchase Price	NFEH	National Forum for Environment & Health
CPPA	Central Power Purchasing Agency (Guarantee) Limited	NTDC	National Transmission & Despatch Company Ltd.
CSR	Corporate Social Responsibility	O&M	Operations & Management
DC	Dependable Capacity	OEM	Original Equipment Manufacturer
DCS	Distributed Control System	OGDCL / OGDC	Oil and Gas Development Company Limited
DHQ	District Head Quarter	OHS	Occupational Health & Safety
DMJ	Dera Murad Jamali	POWRA	Point of Work Risk Assessment
EIA	Environmental Impact Assessment	PPA	Power Purchase Agreement
EMS	Environmental Management System	PIIB	Private Power and Infrastructure Board
EPP	Energy Purchase Price	QESCO	Quetta Electric Supply Company
FFH	Factored Fired Hours	RLNG	Regasified Liquefied Natural Gas
FFS	Factored Fired Starts	Rs	Pak Rupee
FX	Foreign Exchange	Scf	Standard Cubic Foot
FY	Financial Year	SOPs	Standard Operating Procedures
GE	General Electric	SIR	State of Industry Report
GOB	Government of Balochistan	ST	Steam Turbine
GOBAA	GOB Assistance Agreement	STG	Steam Turbine Generator
GOP	Government of Pakistan	Uch-II	Uch-II Power (Private) Limited
GSA	Gas Supply Agreement	UGF	Uch Gas Field
GST	General Sales Tax	UPL / Applicant / Licensee	Uch Power (Private) Limited
GT	Gas Turbine (GTA, GTB, GTC)	UPS	Uch Power Station
GWh	Giga Watt Hours	US\$	United States Dollar
HAZOP	Hazard and Operability	WAPDA	Water and Power Development Authority
HAZID	Hazard Identification	WPPF	Workers Profit Participation Fund
HGPI	Hot Gas Path Inspection		
HP	High Pressure		
HRSG	Heat Recovery Steam Generator		
HSD	High Speed Diesel		
HSE	Health, Safety & Environment		
HSFO	High Sulphur Furnace Oil		
IA	Implementation Agreement		
IGCEP	Indicative Generation Capacity Expansion Plan		
IOSH	Institute of Occupational Safety & Health		
IP	Intermediate Pressure		
IPP	Independent Power Producer		
ISO	International Standards Organization		
KPI	Key Performance Indicator		
KWh	Kilo Watt Hours		
LP	Low Pressure		
LRBT	Layton Rahmatulla Benevolent Trust		
LTA	Lost Time Accident		



## **ANNEXURE-A**

### **OGDCL LETTER ON GAS RESERVES**



# OIL & GAS DEVELOPMENT COMPANY LIMITED

## Corporate Affairs Department



No. CA-P&P/2022/210.

February 7, 2022

Managing Director,  
Private Power & Infrastructure Board,  
Ministry of Energy (Power Division),  
Islamabad.


Subject: **EXTENSION OF UCH POWER (PVT) LIMITED**

Dear Sir,

This has reference to PPIB letter No. 1 (102) PPIB-9001/21/PRJ/O-56501 dated October 25, 2021, the Integrated Reservoir Simulation Study of Uch Gas Field has been carried out by third party Consultant, (M/S Weatherford) with the main objective to assess the remaining UCH reserves for maximum recovery in the most economical way and to further confirm the available gas quantity for extension of UCH (Uch-I) GSA beyond 2023.

2. Based on different prediction scenarios of remaining reserves run by the consultant, OGDCL confirms that there is potential energy available in reserves to extend Uch-I GSA (Beyond 2023) for further five years at the energy rate of 90,000 MMBTU/Day with yearly capping of 32.85 Million MMBTU, without compromising commitments of existing Uch-I & Uch-II GSAs. However, Commercial terms of the Uch-1GSA extension will be finalized with mutual consent of both the parties in due course of time.

For & On behalf of Oil & Gas Development Company Limited

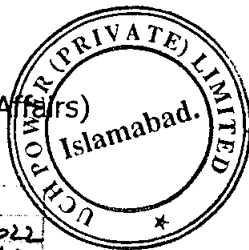
  
General Manager (Corporate Affairs)

(Information)

Copy to the Concerned:

- Chief Executive Officer UPL,
- AED (Production/JV)
- GM (Finance)
- PSO to MD/CEO

RI	08-Feb-2022
042	MS



**ANNEXURE-B**

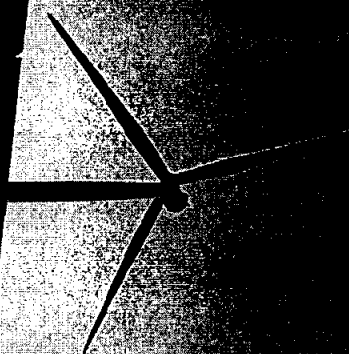
**ENGIE CORPORATE PROFILE**

# LEADING THE ENERGY TRANSITION

Corporate presentation – Update – 03/07/2022



# TODAY WE ARE BUILDING THE LOW-CARBON ENERGY SYSTEM OF TOMORROW





# By focusing on our 4 core activities

## Renewables

- **No. 1** onshore wind producer in France
- **No. 1** solar producer in France
- **No. 1** hydropower independent producer in Brazil
- **1<sup>st</sup>** floating wind farm in continental Europe: 25 MW of installed capacity, 60,000 beneficiaries
- **1<sup>st</sup>** platform for producing green gas from dry biomass in Europe
- Acquisition of Eolia in Spain, 0.9GW in operations and 1.2GW of renewable projects\*

## Networks

- **No. 1** carrier in France, **No. 2** in Europe\*\*
- **No. 1** underground gas storage in Europe
- **No. 1** terminal operator in France, **No. 2** in Europe\*\*
- **No. 1** natural gas distribution network in Europe
- **No. 1** natural gas transmission network in Brazil
- A major player in electricity transportation networks in Chile
- 351 biomethane production sites connected globally\*

## Energy Solutions

- **No. 1** global cooling network
- **No. 1** supplier of hydrogen and GNG charging stations in France
- **No. 1** energy efficiency service provider
- Creation of EQUANS, a leader in multi-technical services, sale process in progress for €7.1 billion\*

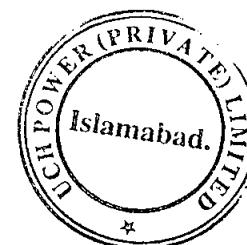
## Thermal production & energy supply

- **No. 1** independent electricity producer worldwide
- **No. 1** supplier of natural gas to private customers in France
- **No. 1** electricity and natural gas supplier in Belgium
- More than 70 hydrogen projects worldwide
- **No. 2** seawater desalination operator

Annual figures on 31/12/2020

\* Annual figures on 31/12/2021

\*\* through independent subsidiaries



# We are an international player

## In 2020

- 170,000 employees
- €57.9 billion revenue\*
- €190 million spent on R&D
- 3GW extra installed renewables capacity\*
- €4.3 billion growth investment\*
- 101 GW installed power generation capacity

NORTH AMERICA  
**€0.7 billion\***  
revenue

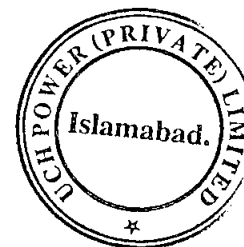
FRANCE  
**€18.7 billion\***  
revenue

REST OF EUROPE  
**€11.1 billion\***  
revenue

OTHER  
**€21.1 billion\***  
revenue

LATIN AMERICA  
**€4.3 billion\***  
revenue

MIDDLE EAST,  
AFRICA, ASIA  
**€2 billion\***  
revenue



Annual figures on 31/12/2020  
\* Annual figures on 31/12/2021

LEADING THE ENERGY TRANSITION

# To achieve the Net Zero Carbon target by 2045

We take action throughout the value chain: our business activities, our suppliers, and our clients

## Renewables

- By targeting an additional annual capacity of **3 GW** in **2021**, then **4 GW/year** from **2022** to **2025**, and **6 GW** from **2026**
- To achieve **50 GW** by **2025** of installed renewable capacity and **80 GW** by **2030**

## Networks

- By reaching **4 TWh** of **Biomethane** by **2030** in France
- **147** new biomethane production sites connected in France in **2021**

## Energy Solutions

- By adding **8 GW** of additional capacity by **2025** in low-carbon distributed energy infrastructures
- To reach **32 GW** by **2025** in distributed energy infrastructures

## Thermal production & energy supply

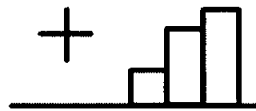
- By phasing-out of our coal activities by **2027**
- By developing a renewable hydrogen production capacity of **4 GW** by **2030**

By contributing to **45 Mt** of **CO<sub>2</sub>** emissions avoided per year by **2030** for our customers



# We are engaged for an affordable, reliable, and sustainable growth

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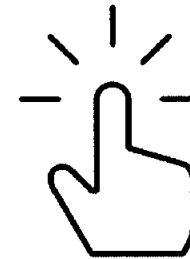
## Accelerate

our investments in  
renewables and low  
carbon distributed energy  
infrastructures



## Strengthen

our commitment to  
decarbonize to achieve  
Net Zero Carbon by  
2045



## Simplify

our organization by focusing  
on our 4 core activities and by  
refocusing on thirty countries  
by 2023

**€15-16 billion of medium-term growth investment  
of which nearly 45% in renewables by 2023**

# By creating value sustainably

**€4.3 billion\***

of growth investment in 2021

**80 GW**

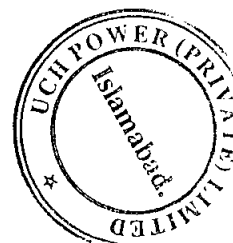
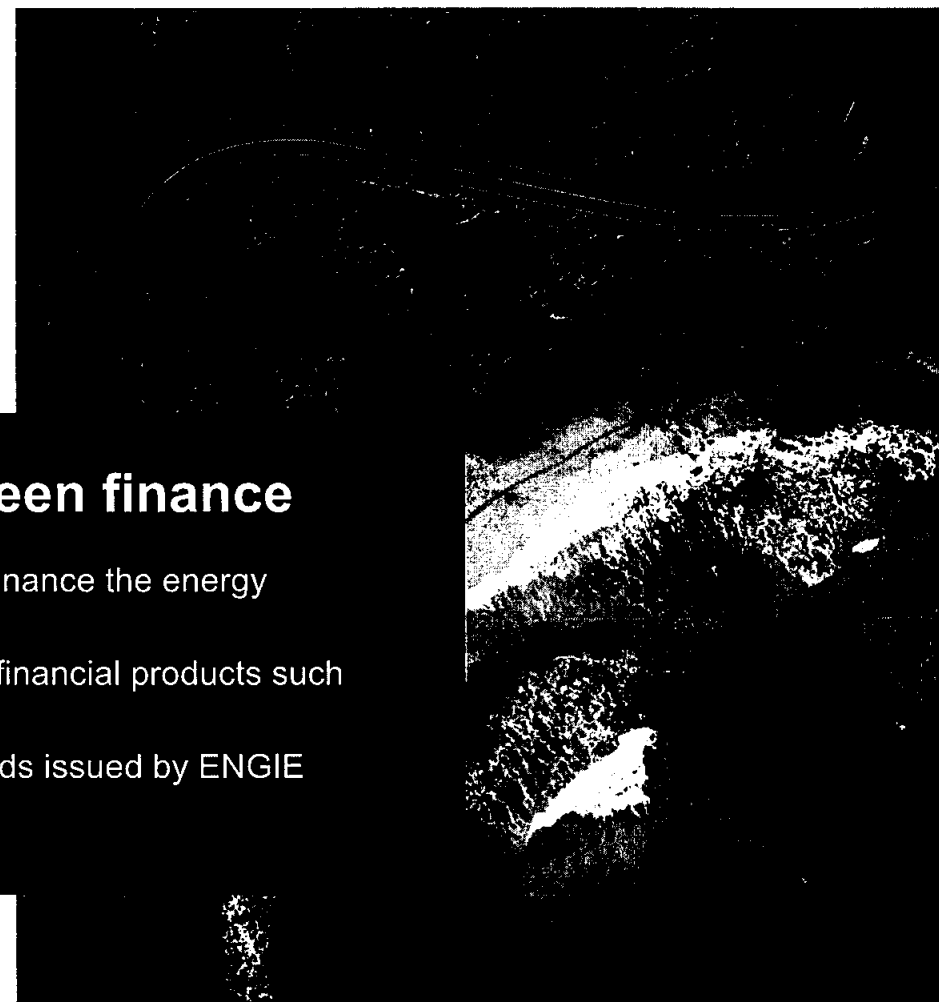
of renewables by 2030

**3.2%**

of share capital  
held by employees

## A pioneer in green finance

- Using green bonds to finance the energy transition since 2014
- Developing innovative financial products such as participative funding
- Total sum of green bonds issued by ENGIE since 2014: €12 billion



Annual figures on 31/12/2020  
\* Annual figures on 31/12/2021

# By supporting inclusion within the Group serving operational excellence

---

## Diversity

- 21.5% of women in the Group
- 25% of women in management\*
- 3 female members on the Executive Committee\*
- 4 nationalities represented on the Executive Committee
- Target **50/50 by 2030**

## Training and apprenticeship

- 3.5% of apprentices in Europe
- Objective for France: 10% work-study trainees in 2021 and half of them taken on after training
- 70.1% of employees trained

## Health and safety at work

- 2.7 rate of occupational accident frequency with sick leave

Annual figures on 31/12/2020  
\* Annual figures on 31/12/2021



**TO ACHIEVE  
NET ZERO CARBON  
BY 2045 FOR US  
AND OUR CUSTOMERS**



# By supporting our clients' energy transition

---

## Few exemples

### ENGIE x Yoplait

In Vienne (Isère, France), ENGIE Solutions, Yoplait Productions France and city authorities have joined forces to use the energy generated by the Yoplait plant to heat the district.

Result: - **50% CO<sub>2</sub> emissions.**

Read more [ENGIE x Yoplait](#) | [ENGIE](#)

### ENGIE x Microsoft

Microsoft chose ENGIE to help implement a plan to transition all its data centers to renewable energy. From 2021, Microsoft's data center in Texas will be powered by hybrid wind and solar energy produced locally.

Read more [ENGIE x Microsoft – USA](#) | [ENGIE](#)

### ENGIE x Hygreen

ENGIE has joined forces with Air Liquide and the Durance, Luberon, Verdon urban area (DLVA) in order to develop the HyGreen Provence project. **30,000 tons of renewable hydrogen** will be produced annually for mobility, energy and industrial uses.

Read more [ENGIE x Hygreen](#) | [ENGIE](#)

### ENGIE x Grhyd

The GRHYD demonstrator implements the concept of Power-to-Gas used to transform surplus renewable electricity into hydrogen and allow their storage and recovery. In Dunkirk, ENGIE is experimenting with this concept for district heating and mobility.

Read more [The GRHYD demonstration project](#) | [Gas](#) | [ENGIE](#)





## By deploying our own carbon transition

**€553 million**

environmental spending  
in 2020\*\*

**21 Mt**

of CO<sub>2</sub>eq avoided by  
our customers

**34%\***

of Renewables in the  
electric capacity mix

**- 52% of CO<sub>2</sub>  
emissions  
from electricity  
generation  
compared to 2012**

Annual figures on 31/12/2020

\* Annual figures on 31/12/2021

\*\* Investment and spending linked to environmental protection



## By investing in research, innovation and digital

---

**900**

researchers

**€190 million**

dedicated to Research  
& Development

**€180 million**

invested in the ENGIE New Ventures  
investment fund dedicated to  
innovative start-ups

**2,000**

Data specialists

**10**

developed digital platforms including  
**Darwin** (19 GW of supervised  
renewable energy)  
**Nemo** (4.5 GW of supervised  
heating and cooling networks)

**200 Tb\***

of data shared on a  
Common Data Hub

Annual figures on 31/12/2020

\* Terabyte/Tera octet



# By helping to protect the environment in all our activities

---

## Biodiversity

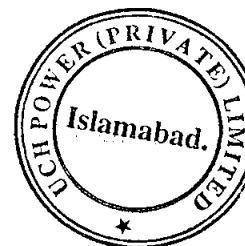
- Contribution of sites to maintain and restore the ecological continuity.
- **Bee to Bio®** offer by Storengy which aims to enhance biodiversity on its customers' sites.

## Circular economy

- Strongly committed to **PV Cycle France**, ENGIE recycles 95% of its photovoltaic panels.
- ENGIE wants to go further in wind energy and aims to develop 100% recyclable wind turbines, thanks to the **ZEBRA** project.

## Ecosystem

- ENGIE is committed to preserving ecosystems through **act4nature**.
- Read more  
ENGIE x Act4Nature : [accelerating the preservation of biodiversity](#)



ENGIE's purpose is to act to accelerate the transition towards a carbon-neutral economy, through reduced energy consumption and more environmentally-friendly solutions.

The purpose brings together the company, its employees, its clients and its shareholders, and reconciles economic performance with a positive impact on people and the planet.



## **ANNEXURE-C**

### **OGDCL LETTER TO NEPRA**



# OIL & GAS DEVELOPMENT COMPANY LIMITED

Managing Director / CEO's Secretariat



No. CE- 486/2021

September 10, 2021

Incoming

**Mr. Tauseef H. Farooqi**

Chairman

National Electric Power Regulatory Authority

NEPRA Tower, Attaturk Avenue (East), Sector G-5/1

ISLAMABAD

Sent To:	RI
Date Received	13-09-2021
Mail Reg. No.	266 MS
File No./Divider-Name	
Coc. to be Archived	Yes No
Fax	Don. Sealed
Returned to	
Received from	

Subject: **INDICATIVE GENERATION CAPACITY EXPANSION PLAN 2021-2030**  
**("IGCEP- 2021")**

Dear Sir,

This is with reference to Uch Power (Private) Limited ("Uch-I") letter dated 22<sup>nd</sup> June 2021 and Uch-II Power (Private) Limited ("Uch-II") letter dated 22<sup>nd</sup> June 2021 (copies enclosed) that in IGCEP-2021 the following capacity utilization factors in percentage terms for Uch-I and Uch-II have been submitted by National Transmission and Dispatch Company Limited to NEPRA for its review and approval under the provisions of Planning Code of the Grid Code:

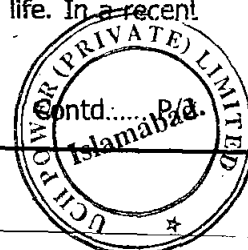
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Uch-I</b>	68.29	64.59	41.02	35.22	33.03	33.03	33.03	32.94	33.06	33.06
<b>Uch-II</b>	81.44	59.62	49.48	49.43	49.52	49.54	49.46	49.31	49.51	49.65

2. In this respect, it is apprised that Uch Gas Field from where gas is being supplied to both power plants, Uch-I & Uch-II, is a low-btu gas field situated in Dera Bugti district of Balochistan province. OGDCL has drilled 37 wells and installed gas processing and allied facilities for meeting its commitments under Gas Supply Agreements with Uch-I & Uch-II. Uch gas has low calorific value but high concentration of acid gases like CO<sub>2</sub>, N<sub>2</sub> & H<sub>2</sub>S therefore this gas is fit only for power generation. In view thereof, this indigenous resource was allocated to Uch-I & Uch-II to meet the electricity demand of the country.

3. It would be pertinent to talk about the characteristics of the reservoir from which this gas is being produced. This reservoir has three lobes, namely eastern, central & western. Eastern lobe has low volume but high btu contents whereas central & western lobes have low btu and high volumes. Gas produced from each lobe is mixed in a certain proportion to make blend fit for processing to meet the requirement of Uch-I & Uch-II power plants. Irregular or constrained flow of gas from wells may change the reservoir behavior which could culminate in losing this huge national resource. Therefore, this sensitivity warrants that the reservoir needs to be managed with utmost care.

4. You would appreciate that the Uch Gas Reservoir has been in production for the last 21 years and it has already produced more than 2 TCF of gas. Water coning/influx is a usual phenomenon in many of the gas reservoirs during later part of the reservoir life. In a recent

dl



study conducted by an international consultant, the presence of aquifer in the Uch reservoir has been confirmed. The study also shows that the water-gas-ratio of the reservoir is on increasing trend and the western lobe of Uch reservoir shows the most significant amount of aquifer influx. The transient effects of past production pattern are still propagating throughout the aquifer. If the gas production rate is reduced significantly as indicated in the IGCEP-2021, the aquifer influx would overtake the gas which would eventually reduce the ultimate gas recovery.

5. It is worth mentioning here that, once the aquifer influx is established in the gas reservoir, then the most reliable and recommended option is to expedite early gas recovery at optimum rates so as to maximize the ultimate gas recovery from the reservoir. Keeping in view the findings of the recent reservoir study, OGDCL is in the process of installation of compression to be completed by end 2023 and drilling of three in-fill wells during 2022 & 2023 as recommended by the consultant so as to maximize the ultimate gas recovery.

6. Reservoir failure would not only result in loss of this indigenous resource but have colossal consequences both for OGDCL as well as for GoP. Furthermore, irregular and low intake of gas by Uch-I & Uch-II would result in inefficient operations which would significantly increase wear and tear of gas processing plant as well as wasteful flaring of gas.


7. In order to enable OGDCL to efficiently manage and make the best use of this indigenous national resource and to avoid any severe consequences for OGDCL as well as the Government emanating from reservoir failure, it is requested that capacity allocation factors for Uch-I & Uch-II in IGCEP-2021 may kindly be revised upward in line with the spirit of Section 6.7 of IGCEP-2021 which emphasizes optimal indigenization and less reliance on imported fuel in the best interest of the country and all stakeholders.

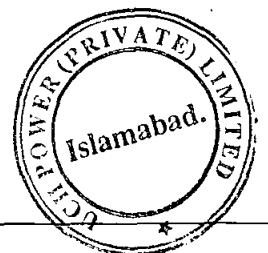
Best Regards,

Yours sincerely,

  
(Shahid Salim Khan)  
Managing Director/CEO

Copy to:

- Federal Secretary (Petroleum division) Ministry of Energy, A-Block Pak Secretariat Islamabad
- Federal Secretary (Power Division) Ministry of Energy A-Block Pak Secretariat Islamabad
- MD PPIB, Ground & 2<sup>nd</sup> Floor, Emigration Tower, Plot No. 10, Mauve Area G-10/1, Islamabad.
- ✓  Mr. Rodak Ali Iqbal, CEO Uch-I & Uch-II, 2-B, I&T Centre, Sector G-6/1-1, Islamabad.



## **ANNEXURE-D**

## **NTDC LETTER**





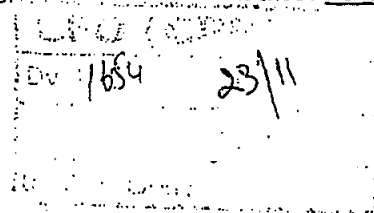
# National Transmission & Despatch Company Ltd.

General Manager (System Operation) NPCC

No: 15373-77/GM (SO)/NPCC/DDPC-1/CPPAG/

Dated: 20-11-2020

→ Chief Technical Officer  
CPPA-G, Blue Area,  
Islamabad



Subject: Impact of Early Retirement of Power Projects Under 1994 Power Policy on System Operations.

Reference: (i) CPPA-G Letter No. CPPA-G/2020/CTO/22275-80 Dated: 17-11-2020.

(ii) CPPA-G Letter No. CPPA-G/2020/CTO/22281-86 Dated: 17-11-2020.

It is apprised that NTDC power system planning department in coordination of this office and other relevant NTDC offices has worked on the subject matter as desired by the 'Committee for Negotiation with IPPs' formed pursuant to CCoE decision of 20<sup>th</sup> May 2020. The preliminary assessment of the future requirements of the existing IPPS of 1994 policy is based on the following aspects:

- Existing system performance and available future grid system expansion plan for the next 5 years.
- Consideration of IPPs fulfilling the following grid system operational requirements:
  - Grid constraint management and voltage stability support, especially during high demand scenario in summer
  - Economical power dispatch
  - Peaking capability, and load following capability especially considering increased share of variable renewable energy (VRE) in future

1. Considering the grid system operational requirements as defined in Item a & b, IPPs have been prioritized, into the following three categories:

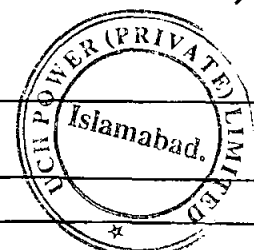
- Critically required
- Semi-critically required
- Not required

CTO CPPAG	
D# 5782	Dt 23/11
DGM(C)	DGM(MO)
DGM(FC)	DGM(R)
DGM(E)	DGM(FI)
DGM(I)	DGM

CTO (CPPA-G)  
Diary No: 556  
Date: 23-11-2020

*CFO*  
*MT-CGR-II*  
*may forward to Ministry*  
*23/11/2020*

*Place of coordinate with Mr. Zubair for the western region*  
*26/11*  
*27/11/2020*



2. It is important to highlight that this preliminary assessment has been prepared based on the professional knowledge, experience and system understanding on the part of NTDC engineers coupled with in-house deliberations. Consequently, in the absence of detailed studies, recommendations made through this report are indicative.
3. This report gives an insight of IPP requirements in consideration of grid system operational requirements for the next 5 years only and does not include generation capacity analysis. It is reiterated that for more accurate future need assessment of IPPs, detailed analyses would be required in medium to long term perspectives; such analyses would be based on hourly production simulation (generation capacity analysis) and grid system operational support studies. The detailed assessment would also include (i) technical examination/inspection/test of the generation facilities to ascertain their current health, emissions, efficiency and longevity; and (ii) assessment of potential capacity and/or energy to DISCOs in the bilateral contract market envisaged under the CTBCM.
4. The results of the preliminary assessment by NTDC regarding IPP requirements under 1994 Policy is provided in the attached table.

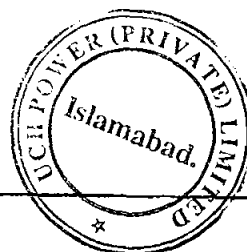
Submitted for your information and further analysis.

(Engr. Muhammad Ayub)

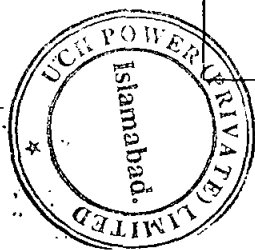
General Manager (System Operation)  
NPCC, NTDC, Islamabad

C.C.

1. Managing Director NTDC, 414-Wapda House Lahore.
2. Dy: Managing Director (P&E), NTDC, WAPDA House Lahore.
3. Dy: Managing Director (AD&M), NTDC, 413-WAPDA House Lahore.
4. General Manager (Power System Planning) NTDC, PIA Tower Lahore



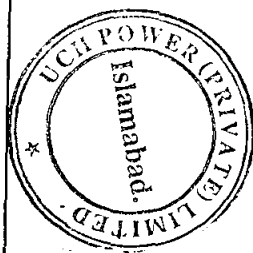
Name of Plant	Dependable Capacity (MW)	Fuel Type	Retirement Year	Proposed Capacity			Remarks
				Critically Required	Semi-Critically Required	Not Required	
KEL	124	RFO	2027	✓			<ul style="list-style-type: none"> <li>Required till the completion of Lahore North 500/220/132 kV grid station (expected in 2023)</li> <li>This plant is candidate for consideration as merchant plant after expiry of its PPA, in view of system operational support capability when needed.</li> </ul>
HCPC	129	GAS	2030	✓			<ul style="list-style-type: none"> <li>Provides grid system operational support to feed QESCO</li> <li>Plant is unavailable since October 2019 due to expiry of gas contract between the complex &amp; SSGC. RLNG contract between the parties has not yet finalized.</li> </ul>
UCH	549	GAS	2030	✓			<ul style="list-style-type: none"> <li>Low cost dedicated gas plant.</li> </ul>
FKPCL	151	RLNG	2030	✓			<ul style="list-style-type: none"> <li>Required for grid constraint management during summer season in future, especially in case of reduction in dispatch of Trimmu power plant (expected COD in Dec. 2020) which may be either due to generator outages or unavailability of RLNG.</li> </ul>
AES LALPIR	350	RFO	2028		✓		<ul style="list-style-type: none"> <li>Wide operating range of generation.</li> <li>May be considered as a merchant plant after expiry of PPA.</li> <li>Its dependable capacity may also help to evacuate additional ARE generation in the NTDC system which needs further exploration.</li> </ul>



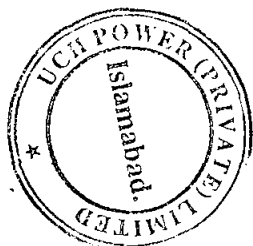
National Transmission and Despatch Company (NTDC)

Priority Proposed for the Power Generation Projects Under 1994 Policy

Name of Plant	Dependable Capacity (MW)	Fuel Type	Retirement Year	Proposed Priority			Remarks
				Critically Required	Semi-Critically Required	Not Required	
A. IPPs under 1994 Policy							
KAPCO	1345	RFO, HSD & RLNG	2021	✓			<ul style="list-style-type: none"><li>Its generators are connected at two voltage levels (220 &amp; 132 kV).</li><li>It has two components: (i) Generators; and (ii) 220/132 kV grid station with 500 MVA capacity feeding MEPCO.</li><li>Its 220/132 kV grid station is required for system operational support.</li><li>May be considered as merchant plant after expiry of its PPA</li><li>Detailed feasibility study from independent consultant is required to determine the quantum of generation capacity required in future as well as to assess the potential benefits of its utilization for peaking duty.</li></ul>
HUBCO	1207	RFO	2027			✓	<ul style="list-style-type: none"><li>Not required for system operational support.</li><li>M/s HUBCO is considering to sell its 600 MW power to KE by converting 2 out of 4 units from oil to coal.</li></ul>



Name of Plant	Dependable Capacity (MW)	Fuel Type	Retirement Year	Proposed Priority			Remarks
				Critically Required	Semi-Critically Required	Not Required	
AES PAKGEN	350	RFO	2028		✓		<ul style="list-style-type: none"> <li>Same remarks as for AES LALPIR</li> </ul>
ROUSCH	395	RLNG	2030		✓		<ul style="list-style-type: none"> <li>Grid operational support is not so significant, especially in view of large sized RLNG plant in its vicinity.</li> <li>Generation cost is lower.</li> </ul>
SABA	126	RFO	2030		✓		<ul style="list-style-type: none"> <li>Required for system operational support till the completion of Lahore North 500/220/132kV grid station (expected in 2023)</li> </ul>
LIBERTY POWER	213	RLNG	2027	✓			<ul style="list-style-type: none"> <li>Low cost on Raw gas.</li> </ul>
AEL	28	RLNG	2032			✓	<ul style="list-style-type: none"> <li>Grid operational support is not so significant, especially in view of large sized RLNG plant.</li> <li>Generation cost is lower than RFO.</li> </ul>
DAVIS	10	RLNG	2044			✓	<ul style="list-style-type: none"> <li>Grid operational support is not so significant, especially in view of large sized RLNG plant in its vicinity.</li> <li>Generation cost is lower than RFO.</li> </ul>



## **ANNEXURE-E**

# **ENVIRONMENTAL DATA – BEPA QUARTERLY ENVIRONMENTAL MONITORING REPORTS**



## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

April 10, 2017

F1.03.2017.01

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from January ~ March 2017**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

### Emission Monitoring

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

### Liquid Effluents Monitoring

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

### Solid & Hazardous Waste Management

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

In case of any clarification, please feel free to contact the undersigned.

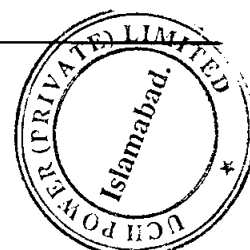
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

### Annexure A

Head Office:  
48, Khayaban-e-Iqbal, Main Margalla Road  
F-7/2, Islamabad



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

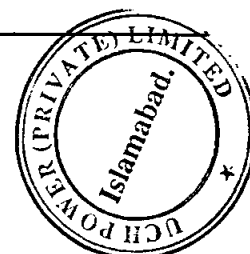
**Gaseous Emissions Monitoring Report**

Name of Industry: Uch Power Station		Reporting Period: January ~ March 2017			
Period Sampled: from January ~ March 2017		Fuel Used: Fuel Gas			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	24.1	21.5	15.6
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0	0	0
Oxygen	%age	-	13.9	14.0	13.9
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	74.4	70.2	71.8
Carbon Dioxide (CO <sub>2</sub> )	%age	-	3.86	3.83	3.86
Temp - Ambient	°C	-	18.8	17.3	17.4
Temp - Gas	°C	-	124.6	124.7	128

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
48, Khayaban-e-Iqbal, Main Margalla Road  
F - 7/2, Islamabad





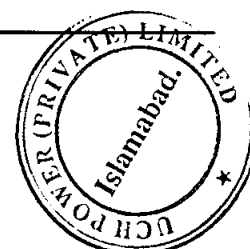
**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: Uch Power Station		Reporting Period: January ~ March 2017	
Period Sampled: from January ~ March 2017			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m <sup>3</sup> /hr)		18 ~ 81 m <sup>3</sup> /hr
Temperature	°C	40	21.6 °C
pH	pH	6 to 10	7.3
TSS	mg/liter	150	26.3 mg/liter
Oil & Grease	mg/liter	10	0.68 mg/liter

Head Office:  
48, Khayaban-e-Iqbal, Main Margalla Road  
F - 7/2, Islamabad





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

July 10, 2017

F1.03.2017.02

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from April ~ June 2017**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

### **Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

### **Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

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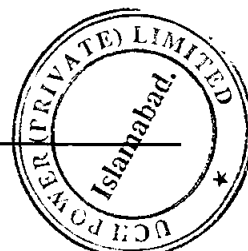
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

### **Annexure A**

*Head Office:*  
48, Khayaban-e-Iqbal, Main Margalla Road  
F – 7/2, Islamabad





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

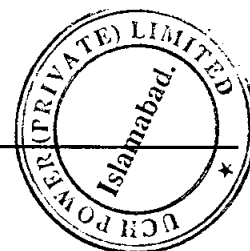
### Gaseous Emissions Monitoring Report

Name of Industry: Uch Power Station		Reporting Period: April ~ June 2017			
Period Sampled: from April ~ June 2017		Fuel Used: Fuel Gas			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	45.6	53.4	44.7
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0	0	0
Oxygen	%age	-	13.6	13.5	13.7
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	66.5	65.5	65.0
Carbon Dioxide (CO <sub>2</sub> )	%age	-	4.01	4.09	3.96
Temp – Ambient	°C	-	30.9	31.7	33.3
Temp – Gas	°C	-	124.1	125	127.4

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
48, Khayaban-e-Iqbal, Main Margalla Road  
F – 7/2, Islamabad

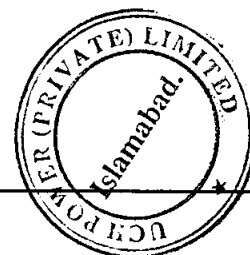


**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: April ~ June 2017	
Period Sampled: from April ~ June 2017			
<b>Parameter</b>	<i>Units</i>	<b>NEQS</b>	<b>Effluent flowing to evaporation pond</b>
Effluent Flow	(m³/hr)		32 ~ 125 m³/hr
Temperature	°C	40	26.6 °C
pH	pH	6 to 10	7.2
TSS	mg/liter	150	24.1 mg/liter
Oil & Grease	mg/liter	10	0.81 mg/liter



**Head Office:**  
48, Khayaban-e-Iqbal, Main Margalla Road  
F-7/2, Islamabad



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

October 09, 2017

F1.03.2017.03

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from July ~ September 2017**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SOx, NOx, O2, CO, & CO2

**Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

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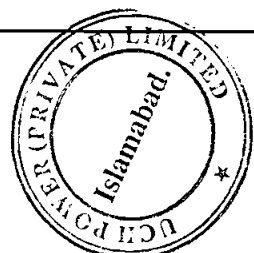
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
             Annexure B: Liquid Effluents Monitoring Report

**Annexure A**

*Head Office:*  
48, Khayaban-e-Iqbal, Main Margalla Road  
F- 7/2, Islamabad



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

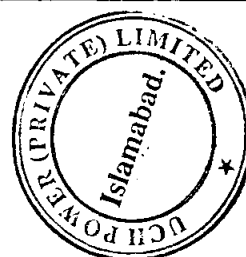
**Gaseous Emissions Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: July ~ September 2017			
Period Sampled: from July ~ September 2017		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	49.8	51.0	48.7
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0	0	0
Oxygen	%age	-	13.3	13.3	13.2
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	28.0	27.6	27.9
Carbon Dioxide (CO <sub>2</sub> )	%age	-	4.17	4.15	4.21
Temp - Ambient	°C	-	33.3	33.6	36.0
Temp - Gas	°C	-	123.3	124.4	126.8

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
48, Khayaban-e-Iqbal, Main Margalla Road  
F- 7/2, Islamabad



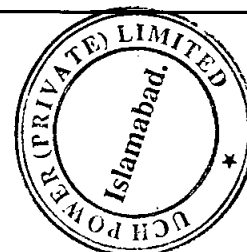
**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: Uch Power Station		Reporting Period: July ~ September 2017	
Period Sampled: from July ~ September 2017			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m <sup>3</sup> /hr)		27 ~ 35 m <sup>3</sup> /hr
Temperature	°C	40	29 °C
pH	pH	6 to 10	7.5
TSS	mg/liter	150	18 mg/liter
Oil & Grease	mg/liter	10	0.97 mg/liter

**Head Office:**  
48, Khayaban-e-Iqbal, Main Margalla Road  
F- 7/2, Islamabad





**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

January 04, 2018

F1.03.2017.04

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from October ~ December 2017**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

**Liquid Effluents Monitoring**

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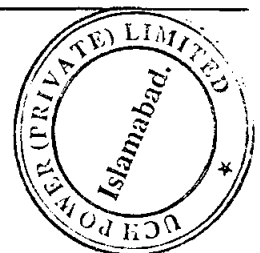
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
            Annexure B: Liquid Effluents Monitoring Report

**Annexure A**

**Head Office:**  
48, Khayaban-e-Iqbal, Main Margalla Road  
F- 7/2, Islamabad





**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

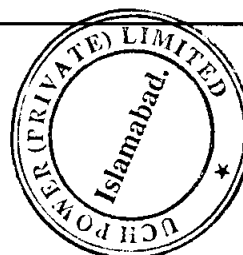
**Gaseous Emissions Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: October ~ December 2017			
Period Sampled: from October ~ December 2017		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	78.5	71.5	49.72
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0	0	0
Oxygen	%age	-	13.47	13.55	13.54
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	66.06	63.53	62.4
Carbon Dioxide (CO <sub>2</sub> )	%age	-	4.09	4.01	4.07
Temp – Ambient	°C	-	25.7	27.8	29.8
Temp – Gas	°C	-	124.7	123.6	127.8

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
48, Khayaban-e-Iqbal, Main Margulla Road  
F – 7/2, Islamabad





## Uch Power (Private) Limited

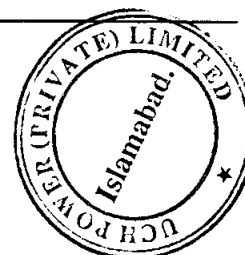
Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure B

#### Liquid Effluents Monitoring Report

Name of Industry: Uch Power Station		Reporting Period: October ~ December 2017	
Period Sampled: from October ~ December 2017			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m <sup>3</sup> /hr)		21 ~ 35.5 m <sup>3</sup> /hr
Temperature	°C	40	26.6 °C
pH	pH	6 to 10	7.3
TSS	mg/liter	150	24 mg/liter
Oil & Grease	mg/liter	10	0.87 mg/liter

Head Office:  
48, Khayaban-e-Iqbal, Main Margalla Road  
F-7/2, Islamabad





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

April 11, 2018

F1.03.2018.01

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from January ~ March 2018**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

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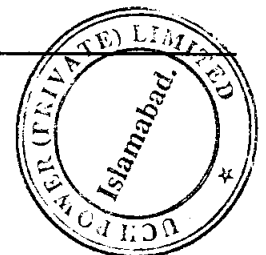
In case of any clarification, please feel free to contact the undersigned.

Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

*Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan*





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure A

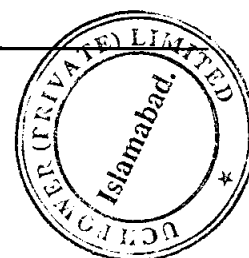
#### Gaseous Emissions Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: January ~ March 2018			
Period Sampled: from January ~ March 2018		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	46.0	54.9	48.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0	0	0
Oxygen	%age	-	13.53	13.80	13.34
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	63.4	69.4	73.6
Carbon Dioxide (CO <sub>2</sub> )	%age	-	3.94	3.98	4.13
Temp – Ambient	°C	-	19.1	18.8	19.8
Temp – Gas	°C	-	127.0	125.5	127.3

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

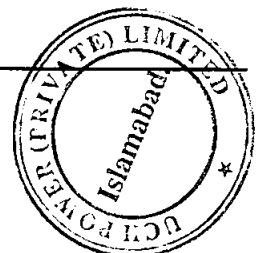
Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure B

### Liquid Effluents Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: January ~ March 2018	
Period Sampled: from January ~ March 2018			
<b>Parameter</b>	<b>Units</b>	<b>NEQS</b>	<b>Effluent flowing to evaporation pond</b>
Effluent Flow	(m³/hr)		39.5 ~ 65.5 m³/hr
Temperature	°C	40	23.3 °C
pH	pH	6 to 10	7.5
TSS	mg/liter	150	22 mg/liter
Oil & Grease	mg/liter	10	0.94 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

July 10, 2018

F1.03.2018.02

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from April ~ June 2018**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

### **Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

### **Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

### **Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

In case of any clarification, please feel free to contact the undersigned.

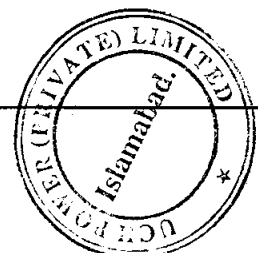
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

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*Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan*





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure A

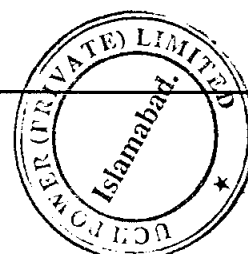
### Gaseous Emissions Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: April ~ June 2018			
Period Sampled: from April ~ June 2018		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0	0	0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	2.86	0	0
Oxygen	%age	-	13.55	13.40	13.43
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	65.2	65.0	67.8
Carbon Dioxide (CO <sub>2</sub> )	%age	-	5.64	5.58	5.50
Temp – Ambient	°C	-	35.6	37.4	37.4
Temp – Gas	°C	-	127.6	127.7	132.3

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

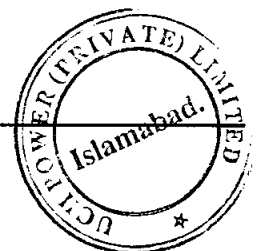
Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure B

### Liquid Effluents Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: April ~ June 2018	
Period Sampled: from April ~ June 2018			
<b>Parameter</b>	<i>Units</i>	<b>NEQS</b>	<b>Effluent flowing to evaporation pond</b>
Effluent Flow	(m³/hr)		73 ~ 93 m³/hr
Temperature	°C	40	33.3 °C
pH	pH	6 to 10	7.5
TSS	mg/liter	150	23 mg/liter
Oil & Grease	mg/liter	10	0.98 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan







## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

October 09, 2018

F1.03.2018.03

Director General  
Environment Protection Agency  
Baluchistan

### **Subject: Periodic Emission Monitoring Report from July ~ September 2018**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

#### **Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SOx, NOx, O2, CO, & CO2

#### **Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

#### **Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

In case of any clarification, please feel free to contact the undersigned.

Sincerely,

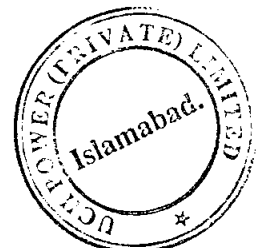
*[Handwritten signature]*  
9/10/18

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

---

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure A

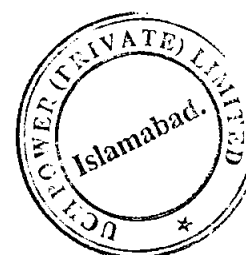
#### Gaseous Emissions Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: July ~ September 2018			
Period Sampled: from July ~ September 2018		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0	0	0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	2.22	0	0
Oxygen	%age	-	13.47	13.42	13.44
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	61.2	55.9	60.3
Carbon Dioxide (CO <sub>2</sub> )	%age	-	5.74	5.77	5.63
Temp – Ambient	°C	-	33.4	34.4	34.8
Temp – Gas	°C	-	129.7	128.6	132.6

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: Uch Power Station		Reporting Period: July ~ September 2018	
Period Sampled: from July ~ September 2018			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m³/hr)		46 ~ 70.5 m³/hr
Temperature	°C	40	33.3 °C
pH	pH	6 to 10	7.4
TSS	mg/liter	150	24 mg/liter
Oil & Grease	mg/liter	10	0.93 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

January 04, 2019

F1.03.2018.04

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from October ~ December 2018**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

**Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

**Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

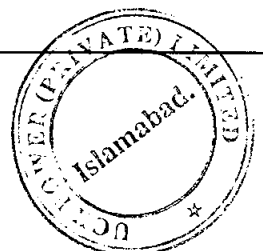
In case of any clarification, please feel free to contact the undersigned.

Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

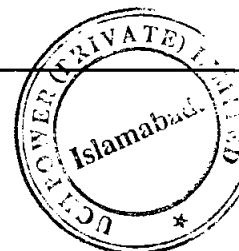
**Annexure A****Gaseous Emissions Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: October ~ December 2018			
Period Sampled: from October ~ December 2018		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	0.0	0.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	0.0	0.0
Oxygen	%age	-	13.71	13.68	13.61
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	68.3	61.9	63.8
Carbon Dioxide (CO <sub>2</sub> )	%age	-	5.76	5.85	5.73
Temp – Ambient	°C	-	27.5	27.4	27.9
Temp – Gas	°C	-	130.8	129.0	132.2

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



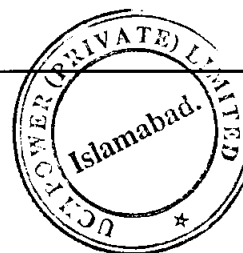
**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: Uch Power Station		Reporting Period: October ~ December 2018	
Period Sampled: from October ~ December 2018			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m <sup>3</sup> /hr)		15.2 ~ 28.5 m <sup>3</sup> /hr
Temperature	°C	40	28.3 °C
pH	pH	6 to 10	7.3
TSS	mg/liter	150	21.6 mg/liter
Oil & Grease	mg/liter	10	0.4 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

April 5, 2019

F1.03.2019.01

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from January ~ March 2019**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

**Liquid Effluents Monitoring**


- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

**Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

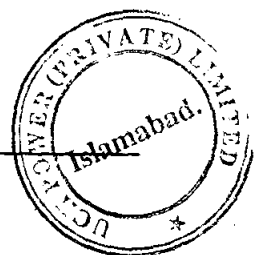
In case of any clarification, please feel free to contact the undersigned.

Sincerely,

  
Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
             Annexure B: Liquid Effluents Monitoring Report

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad - 44000 - Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure A

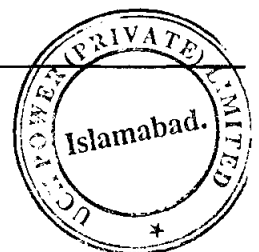
#### Gaseous Emissions Monitoring Report

Name of Industry: Uch Power Station		Reporting Period: January ~ March 2019			
Period Sampled: from January ~ March 2019		Fuel Used: Fuel Gas			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	1.87	9.5
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	0.0	0.0
Oxygen	%age	-	13.7	13.6	13.7
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	54.6	52.6	53.6
Carbon Dioxide (CO <sub>2</sub> )	%age	-	5.70	5.70	5.60
Temp – Ambient	°C	-	21.8	21.9	21.9
Temp – Gas	°C	-	131.7	129.8	132.4

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan







## Uch Power (Private) Limited

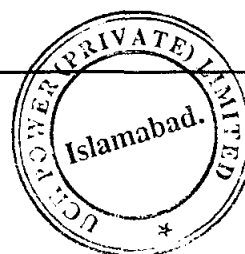
Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure B

### Liquid Effluents Monitoring Report

Name of Industry: Uch Power Station		Reporting Period: January ~ March 2019	
Period Sampled: from January ~ March 2019			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m <sup>3</sup> /hr)		59.3 ~ 71 m <sup>3</sup> /hr
Temperature	°C	40	19.0 °C
pH	pH	6 to 10	7.4
TSS	mg/liter	150	29 mg/liter
Oil & Grease	mg/liter	10	0.4 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad - 44000 - Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

July 10, 2019

F1.03.2019.02

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from April ~ June 2019**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

### **Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SOx, NOx, O2, CO, & CO2

### **Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

### **Solid & Hazardous Waste Management**

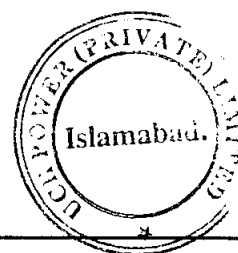
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In case of any clarification, please feel free to contact the undersigned.

Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report



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**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan

**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

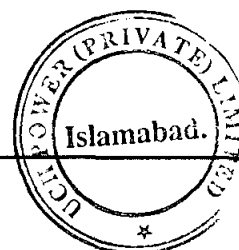
**Annexure A****Gaseous Emissions Monitoring Report**

Name of Industry: Uch Power Station		Reporting Period: April ~ June 2019			
Period Sampled: from April ~ June 2019		Fuel Used: Fuel Gas			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	0.0	0.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	2.8	2.8	0.0
Oxygen	%age	-	13.3	13.3	13.5
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	39.8	36.8	37.8
Carbon Dioxide (CO <sub>2</sub> )	%age	-	5.67	5.71	5.68
Temp – Ambient	°C	-	20.9	20.8	20.9
Temp – Gas	°C	-	130.6	131.2	133.9

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



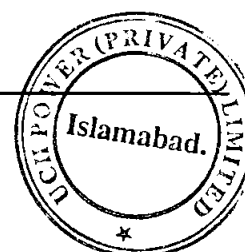
**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: Uch Power Station		Reporting Period: April ~ June 2019	
Period Sampled: from April ~ June 2019			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m <sup>3</sup> /hr)		82 ~ 93 m <sup>3</sup> /hr
Temperature	°C	40	26.0 °C
pH	pH	6 to 10	7.5
TSS	mg/liter	150	39.3 mg/liter
Oil & Grease	mg/liter	10	0.93 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

October 14, 2019

F1.03.2019.03

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from July ~ September 2019**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

**Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

**Solid & Hazardous Waste Management**

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In case of any clarification, please feel free to contact the undersigned.

Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
             Annexure B: Liquid Effluents Monitoring Report

---

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan

**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

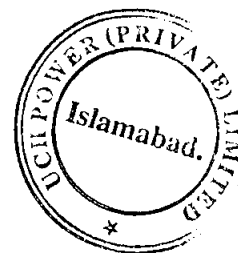
**Annexure A****Gaseous Emissions Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: July ~ September 2019			
Period Sampled: from July ~ September 2019		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	0.0	0.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	2.8	0.0
Oxygen	%age	-	13.3	13.2	13.2
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	26.8	25.5	41.2
Carbon Dioxide (CO <sub>2</sub> )	%age	-	5.74	5.75	5.60
Temp – Ambient	°C	-	26.4	26.4	26.4
Temp – Gas	°C	-	130.0	131.2	134.0

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



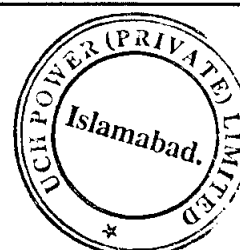
**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: July ~ September 2019	
Period Sampled: from July ~ September 2019			
<b>Parameter</b>	<i>Units</i>	<b>NEQS</b>	<b>Effluent flowing to evaporation pond</b>
Effluent Flow	(m³/hr)		77 ~ 93 m³/hr
Temperature	°C	40	28.6 °C
pH	pH	6 to 10	7.5
TSS	mg/liter	150	42.3 mg/liter
Oil & Grease	mg/liter	10	0.90 mg/liter

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

January 02, 2020

F1.03.2019.05

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from October ~ December 2019**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

### **Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

### **Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

### **Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

In case of any clarification, please feel free to contact the undersigned.

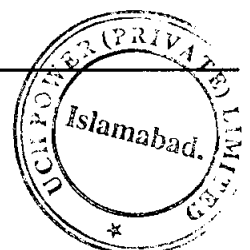
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

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*Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan*







## Uch Power (Private) Limited

Uch Power Station

Dera Murad Jamali

District Nasirabad

Balochistan, Pakistan

### Annexure A

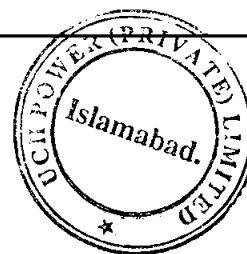
#### Gaseous Emissions Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: October ~ December 2019			
Period Sampled: from October ~ December 2019		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	0.0	3.3
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	2.2	0.8	0.8
Oxygen	%age	-	13.8	13.7	13.7
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	38.2	38.2	40.0
Carbon Dioxide (CO <sub>2</sub> )	%age	-	5.57	5.64	5.62
Temp – Ambient	°C	-	29.5	29.5	29.5
Temp – Gas	°C	-	131.1	130.6	134.9

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station

Dera Murad Jamali

District Nasirabad

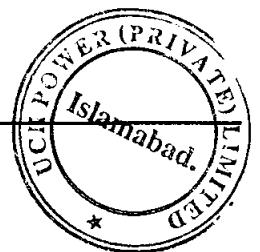
Balochistan, Pakistan

### Annexure B

### Liquid Effluents Monitoring Report

Name of Industry: Uch Power Station		Reporting Period: October ~ December 2019	
Period Sampled: from October ~ December 2019			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m³/hr)		39 ~ 66 m³/hr
Temperature	°C	40	25.3 °C
pH	pH	6 to 10	7.4
TSS	mg/liter	150	27.0 mg/liter
Oil & Grease	mg/liter	10	0.33 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

April 11, 2020

F1.03.2020.01

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from January ~ March 2020**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

**Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

**Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

In case of any clarification, please feel free to contact the undersigned.

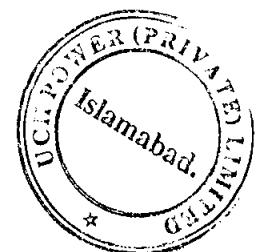
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
             Annexure B: Liquid Effluents Monitoring Report

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**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure A****Gaseous Emissions Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: January ~ March 2020			
Period Sampled: from January ~ March 2020		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	0.0	11.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	0.0	0.0
Oxygen	%age	-	13.8	13.9	13.9
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	42.1	41.0	46.1
Carbon Dioxide (CO <sub>2</sub> )	%age	-	5.69	5.72	5.65
Temp – Ambient	°C	-	20.1	22.1	22.1
Temp – Gas	°C	-	131.6	132.0	136.0

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

**Head Office:**  
**2-B, I&T Center Sector G- 6/1-1,**  
**Islamabad – 44000 – Pakistan**



**Uch Power (Private) Limited**

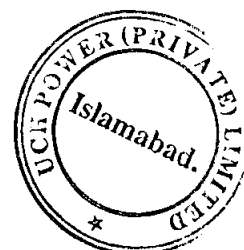
Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: January ~ March 2020	
Period Sampled: from January ~ March 2020			
<b>Parameter</b>	<i>Units</i>	<b>NEQS</b>	<b>Effluent flowing to evaporation pond</b>
Effluent Flow	(m³/hr)		56.7 ~ 57.0 m³/hr
Temperature	°C	40	23.3 °C
pH	pH	6 to 10	7.5
TSS	mg/liter	150	14 mg/liter
Oil & Grease	mg/liter	10	0.7 mg/liter

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**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

July 14, 2020

F1.03.2020.02

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from April ~ June 2020**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

**Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

**Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

In case of any clarification, please feel free to contact the undersigned.

Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
             Annexure B: Liquid Effluents Monitoring Report

---

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

**Uch Power Station**  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

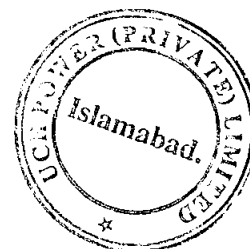
**Annexure A****Gaseous Emissions Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: April ~ June 2020			
Period Sampled: from April ~ June 2020		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	2.0	7.0	5.3
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	0.0	0.0
Oxygen	%age	-	12.6	10.5	12.9
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	19.5	22.6	20.6
Carbon Dioxide (CO <sub>2</sub> )	%age	-	4.53	5.07	3.09
Temp – Ambient	°C	-	39.1	39.8	40.1
Temp – Gas	°C	-	121.6	122.0	124.1

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited****Uch Power Station**

Dera Murad Jamali

District Nasirabad

Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: April ~ June 2020	
Period Sampled: from April ~ June 2020			
<b>Parameter</b>	<i>Units</i>	<b>NEQS</b>	<b>Effluent flowing to evaporation pond</b>
Effluent Flow	(m³/hr)		72.0 ~ 72.6 m³/hr
Temperature	°C	40	27.6 °C
pH	pH	6 to 10	7.4
TSS	mg/liter	150	20 mg/liter
Oil & Grease	mg/liter	10	0.7 mg/liter

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**Head Office:**  
**2-B, I&T Center Sector G- 6/1-1,**  
**Islamabad – 44000 – Pakistan**





**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

October 19, 2020

F1.03.2020.04

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from July ~ September 2020**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SOx, NOx, O2, CO, & CO2

**Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

**Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

In case of any clarification, please feel free to contact the undersigned.

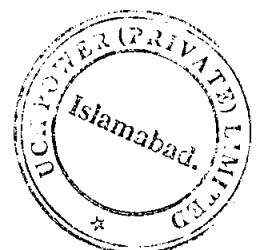
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

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**Head Office:**  
2-B, I&T Center Sector G- 6/1-I,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

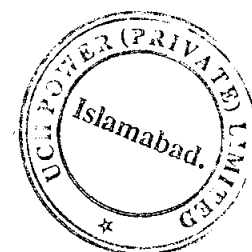
**Annexure A****Gaseous Emissions Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: July ~ September 2020			
Period Sampled: from July ~ September 2020		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	2.0	3.6	4.6
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	0.0	0.0
Oxygen	%age	-	11.9	10.3	12.3
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	40.3	25.0	21.6
Carbon Dioxide (CO <sub>2</sub> )	%age	-	3.99	5.21	3.09
Temp – Ambient	°C	-	36.1	36.3	36.3
Temp – Gas	°C	-	121.7	121.6	123.6

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-I,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

**Annexure B****Liquid Effluents Monitoring Report**

Name of Industry: Uch Power Station		Reporting Period: July ~ September 2020	
Period Sampled: from July ~ September 2020			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m³/hr)		33.0 ~ 45.5 m³/hr
Temperature	°C	40	33.6 °C
pH	pH	6 to 10	7.3
TSS	mg/liter	150	78 mg/liter
Oil & Grease	mg/liter	10	0.9 mg/liter

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

January 22, 2021

F1.03.2020.05

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from October ~ December 2020**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

### **Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

### **Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

### **Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

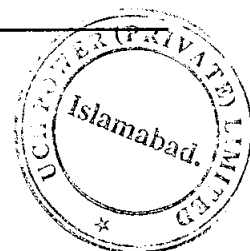
In case of any clarification, please feel free to contact the undersigned.

Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

*Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan*





## Uch Power (Private) Limited

Uch Power Station

Dera Murad Jamali

District Nasirabad

Balochistan, Pakistan

### Annexure A

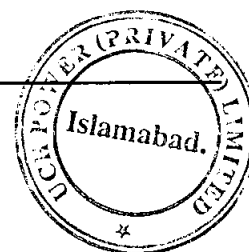
### Gaseous Emissions Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: October ~ December 2020			
Period Sampled: from October ~ December 2020		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.67	0.0	0.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	0.0	0.0
Oxygen	%age	-	14.2	14.1	14.1
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	54.0	49.0	42.0
Carbon Dioxide (CO <sub>2</sub> )	%age	-	3.76	3.77	3.78
Temp – Ambient	°C	-	24.1	24.3	24.6
Temp – Gas	°C	-	120.7	125.1	125.3

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-I,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station

Dera Murad Jamali

District Nasirabad

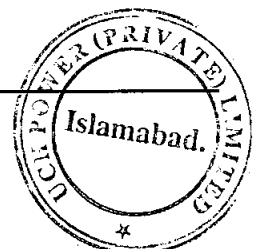
Balochistan, Pakistan

### Annexure B

#### Liquid Effluents Monitoring Report

Name of Industry: Uch Power Station		Reporting Period: October ~ December 2020	
Period Sampled: from October ~ December 2020			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m³/hr)		37.0 ~ 42.2 m³/hr
Temperature	°C	40	26.3 °C
pH	pH	6 to 10	7.5
TSS	mg/liter	150	59.3 mg/liter
Oil & Grease	mg/liter	10	0.7 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

April 08, 2021

F1.03.2021.01

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from January ~ March 2021**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

### **Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

### **Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

### **Solid & Hazardous Waste Management**

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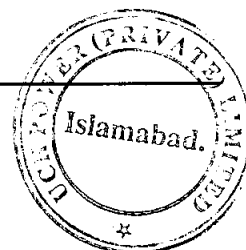
In case of any clarification, please feel free to contact the undersigned.

Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

*Head Office:*  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure A

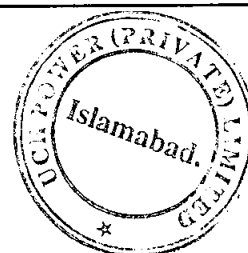
#### Gaseous Emissions Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: January ~ March 2021			
Period Sampled: from January ~ March 2021		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	0.0	34.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	0.0	0.0
Oxygen	%age	-	13.8	13.6	13.6
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	44.6	44.0	24.0
Carbon Dioxide (CO <sub>2</sub> )	%age	-	6.94	6.88	6.87
Temp – Ambient	°C	-	24.3	24.3	24.3
Temp – Gas	°C	-	129.9	131.6	132.4

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan







## Uch Power (Private) Limited

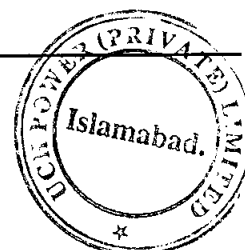
Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure B

### Liquid Effluents Monitoring Report

Name of Industry: Uch Power Station		Reporting Period: January ~ March 2021	
Period Sampled: from January ~ March 2021			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m³/hr)		30.0 ~ 30.5 m³/hr
Temperature	°C	40	19.3 °C
pH	pH	6 to 10	7.5
TSS	mg/liter	150	25.3 mg/liter
Oil & Grease	mg/liter	10	0.4 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

Junly 03, 2021

F1.03.2021.02

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from April ~ June 2021**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

### **Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

### **Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

### **Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

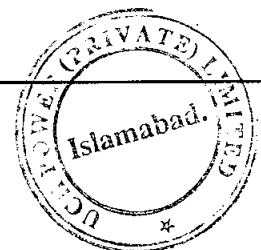
In case of any clarification, please feel free to contact the undersigned.

Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
              Annexure B: Liquid Effluents Monitoring Report

*Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan*





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure A

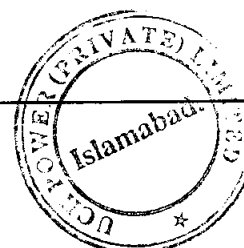
#### Gaseous Emissions Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: April ~ June 2021			
Period Sampled: from April ~ June 2021		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	0.1	0.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	0.0	0.0
Oxygen	%age	-	13.7	13.6	13.7
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	79.1	77.9	84.0
Carbon Dioxide (CO <sub>2</sub> )	%age	-	6.61	6.65	6.52
Temp – Ambient	°C	-	26.0	26.3	26.1
Temp – Gas	°C	-	131.3	131.6	133.7

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

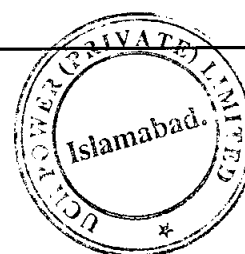
Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure B

#### Liquid Effluents Monitoring Report

Name of Industry: Uch Power Station		Reporting Period: April ~ June 2021	
Period Sampled: from April ~ June 2021			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m³/hr)		60.3 ~ 60.7 m³/hr
Temperature	°C	40	27.7 °C
pH	pH	6 to 10	7.5
TSS	mg/liter	150	30.3 mg/liter
Oil & Grease	mg/liter	10	0.4 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

October 13, 2021

F1.03.2021.03

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from July ~ September 2021**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

**Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

**Solid & Hazardous Waste Management**

- Solid wastes and other hazardous wastes at Uch Power Station are handled as per environmental procedures. UPS has waste management system that is compliant to NEQS and ISO 14001 environment standards. Under this system, all waste is collected and segregated into hazardous, general, metal, biological, oil & medical wastes. General & hazardous waste is disposed in their dedicated landfill area within the premises of UPS. Metal, waste chemical and waste oil are also stored in dedicated section of a specially built waste management area. Whereas, all medical waste collected at site-clinic is sent to Agha Khan Hospital where it is disposed off through incineration.

In case of any clarification, please feel free to contact the undersigned.

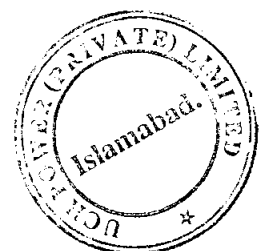
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
             Annexure B: Liquid Effluents Monitoring Report

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**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

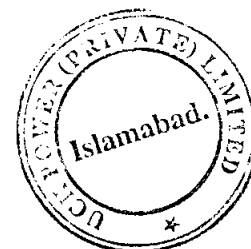
**Annexure A****Gaseous Emissions Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: July ~ September 2021			
Period Sampled: from July ~ September 2021		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	0.0	0.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.0	0.0	0.0
Oxygen	%age	-	13.5	13.3	13.4
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	73.1	74.2	69.3
Carbon Dioxide (CO <sub>2</sub> )	%age	-	6.99	6.90	6.91
Temp – Ambient	°C	-	25.5	25.5	25.6
Temp – Gas	°C	-	127.0	128.9	130.8

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

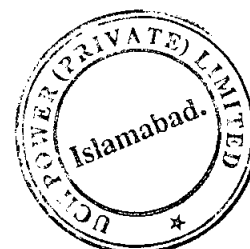
### Annexure B

#### Liquid Effluents Monitoring Report

Name of Industry: <b>Uch Power Station</b>		Reporting Period: July ~ September 2021	
Period Sampled: from July ~ September 2021			
<b>Parameter</b>	<i>Units</i>	<b>NEQS</b>	<b>Effluent flowing to evaporation pond</b>
Effluent Flow	(m³/hr)		24.0 ~ 24.5 m³/hr
Temperature	°C	40	31.3 °C
pH	pH	6 to 10	7.59
TSS	mg/liter	150	38.0 mg/liter
Oil & Grease	mg/liter	10	0.37 mg/liter

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**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

January 09, 2022

F1.03.2021.04

Director General  
Environment Protection Agency  
Baluchistan

**Subject: Periodic Emission Monitoring Report from October ~ December 2021**

Dear Sir,

Please find herewith periodic environmental monitoring report of Uch Power Station.

**Emission Monitoring**

- Emission monitoring report for three gas turbine stacks is attached as Annexure A. This report contains emission values for SO<sub>x</sub>, NO<sub>x</sub>, O<sub>2</sub>, CO, & CO<sub>2</sub>

**Liquid Effluents Monitoring**

- As, Uch Power Station is zero liquid discharge facility, hence there is no requirement for monitoring of liquid effluents as such. However, waste water entering evaporation pond was monitored periodically and concerned parameters were observed within limits. Periodic sample report is attached in Annexure B.

**Solid & Hazardous Waste Management**

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In case of any clarification, please feel free to contact the undersigned.

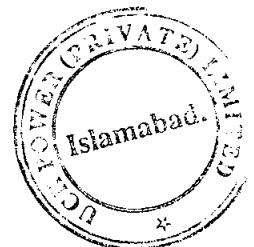
Sincerely,

Fida Muhammad Khan  
Manager Health Safety & Environment

Encl.      Annexure A: Emission Monitoring Report  
             Annexure B: Liquid Effluents Monitoring Report

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**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





**Uch Power (Private) Limited**

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

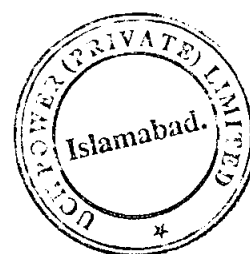
**Annexure A****Gaseous Emissions Monitoring Report**

Name of Industry: <b>Uch Power Station</b>		Reporting Period: October ~ December 2021			
Period Sampled: from October ~ December 2021		Fuel Used: <b>Fuel Gas</b>			
Parameter		NEQS	GT A	GT B	GT C
Carbon Mono Oxide (CO)	mg/Nm <sup>3</sup>	800	0.0	0.4	0.0
Oxides of Sulfur (SO <sub>x</sub> )	mg/Nm <sup>3</sup>	400(NR)	0.42	0.0	0.0
Oxygen	%age	-	13.9	14.0	13.4
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	400	76.1	74.8	80.5
Carbon Dioxide (CO <sub>2</sub> )	%age	-	6.53	6.74	6.83
Temp – Ambient	°C	-	24.2	24.1	24.2
Temp – Gas	°C	-	129.0	129.7	131.1

\* NR means not required under NEQS for gas fired plant.

\* ND means not detected.

**Head Office:**  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan





## Uch Power (Private) Limited

Uch Power Station  
Dera Murad Jamali  
District Nasirabad  
Balochistan, Pakistan

### Annexure B

#### Liquid Effluents Monitoring Report

Name of Industry: Uch Power Station		Reporting Period: October ~ December 2021	
Period Sampled: from October ~ December 2021			
Parameter	Units	NEQS	Effluent flowing to evaporation pond
Effluent Flow	(m³/hr)		28.8 ~ 29.3 m³/hr
Temperature	°C	40	26.0 °C
pH	pH	6 to 10	7.67
TSS	mg/liter	150	38.0 mg/liter
Oil & Grease	mg/liter	10	0.33 mg/liter

Head Office:  
2-B, I&T Center Sector G- 6/1-1,  
Islamabad – 44000 – Pakistan



## **ANNEXURE-F**

### **NFEH AND NEPRA AWARDS**



NFEH

National Forum for  
Environment & Health  
[www.nfeh.org.pk](http://www.nfeh.org.pk)

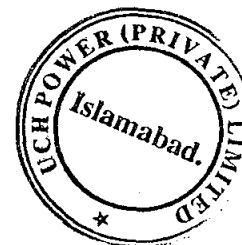
# *Certificate* OF APPRECIATION

## 18<sup>th</sup> Annual Environment Excellence Awards 2021

After careful consideration of track record,  
services and performance of

**UCH POWER (PVT.) LIMITED**

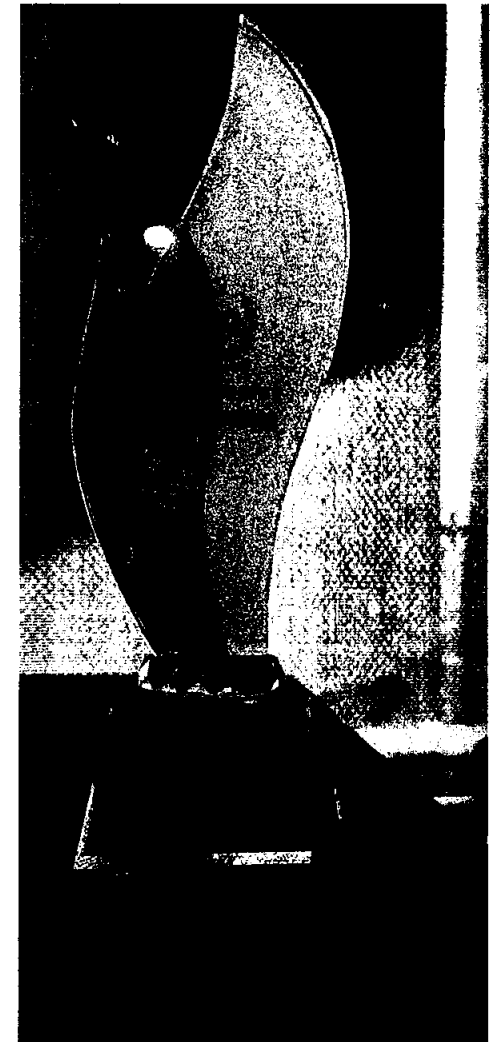
This certificate is presented on September 16, 2021, Karachi.



M. Naeem Qureshi

# NEPRA HSE Excellence Award 2021

## Bronze Award to Uch Power



## **ANNEXURE-G**

## **GE CERTIFICATE**



## GE Gas Power

Country Director – Pakistan & Afghanistan

ARFA Software Technology Park,  
Level 12, 346-B, Ferozepur Road,  
Lahore – 54460, Pakistan

April 12, 2022

### **Certificate of "Useful Life of Uch Power (Private) Limited"**

This certificate is hereby issued at the request of Uch Power (Private) Limited ("UPL") for and is to be used as part of its Application for Extension of Generation License to National Electric Power Regulatory Authority ("NEPRA").

General Electric (GE) as the Original Equipment Manufacturer (OEM), hereby certifies and confirms the healthiness and useful life of the Gas Turbines ("GTs") & Steam Turbine ("ST") along with associated Generators operating at UPL (Uch Power Station). GE has a valid and subsisting Long Term Parts & Service Agreement (LTPSA) with UPL, pursuant to which GE has been providing extensive services in respect of Planned Outages of GTs, ST and associated Generators at pre-defined regular intervals. The combined cycle plant comprises of three (3) GTs, three (3) HRSGs and one (1) ST. Total ISO gross capacity is 586 MW, and the expected (estimated) life of the plant is well over thirty (30) years, assuming normal operation and maintenance and allowing for reasonable wear and tear.

We confirm that GE has undertaken routine periodic inspections of the UPL GTs and assures that these are fit to operate safely until 2038 with routine planned maintenance recommended by OEM. Based on our experience around the globe, we understand that similar technology gas turbines has a useful life of [40] years. We further confirm that GE has undertaken routine periodic inspections of the UPL ST model C7 and its Generator installed at Uch Power Station as recommended by OEM and is in good working condition for future with continued inspections in line with OEM guidelines. Based on our experience around the globe, we understand that similar technology steam turbines has a useful life of [50] years.

GE, being the OEM and LTPSA service provider, hereby assures the NEPRA that the GTs and the ST at Uch Power Station are fit to operate safely for the life cycle mentioned above with continued compliance of the routine maintenance recommended by GE.

Sincere Regards,

**Country Director, GE Gas Power**

