National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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Registrar

No. NEPRA/R/DL/LAG-243/ 3860-64

March 13, 2015

Mr. Athar Haneef Naseem Shaikh
Advisor
K-Energy (Private) Limited
F-60, Park Lane, Block-5, Kehkashan,
Clifton, Karachi
Tele: 021-35157421-23

Subject: **Generation Licence No. IGSPL/48/2015**
Licence Application No. LAG-243
K-Energy (Private) Limited (KEPL)

Reference: Your application vide letter No. nil, dated September 09, 2013.

Enclosed please find herewith Determination of the Authority in the matter of Generation Licence Application of K-Energy (Pvt.) Limited (KEPL) along with Generation Licence No. IGSPL/48/2015 annexed to this determination granted by the National Electric Power Regulatory Authority to KEPL for its 421.90 MW coal based thermal generation facility located at Bin Qasim Industrial Park at Port Qasim, Karachi, Sindh, pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997).

2. Please quote above mentioned Generation Licence No. for future correspondence.

Enclosure: **Generation Licence (IGSPL/48/2015)**

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13.03.15
(Syed Safeer Hussain)

Copy to:

1. Chief Executive Officer, NTDC, 414-WAPDA House, Lahore
2. Chief Operating Officer, CPPA, 107-WAPDA House, Lahore
3. Chief Executive Officer, K-Electric Limited, Formerly Karachi Electric Supply Company Limited, KE House, 39-B, Sunset Boulevard, DHA-II, Karachi
4. Director General, Sindh Environmental Protection Agency, Plot No. ST 2/1, Sector 23, Korangi Industrial Area, Karachi

National Electric Power Regulatory Authority (NEPRA)

Determination of the Authority in the Matter of Application of K Energy (Private) Limited for the Grant of Generation Licence

March 12, 2015
Case No. LAG-243

(A). Background

(i). The Authority granted a Generation Licence (No. GL/04/2002, dated November 18, 2002 as amended from time to time to K-Electric Limited (KEL) with a cumulative Installed Capacity of 2422.29 MW for its different Generation Facilities.

(ii). The above generation facilities consisted of (a) Bin Qasim Power Station-I/BQPS-I (b). Korangi Thermal Power Station/KTPS (c). 220 MW Combined Cycle Power Plant at Korangi/CCPP Korangi (d). Korangi Town Gas Turbine Power Station/KTGTPS (e). Korangi Town Gas Engine Power Station/KTGEPS (f). SITE Gas Turbine Power Station/SGTPS (g). SITE Gas Engines Power Station/SGEPS and (h). 560.00 MW New CCPP At Bin Qasim/BQPS-II.

(iii). The Authority through its Determination No. NEPRA/R/LAG-05/3476-78, Dated April 03, 2014 approved a Licensee Proposed Modification (LPM) excluding two (02) units of BQPS-I (i.e. Unit No. 3 & 4) with a cumulative Installed Capacity of 420.00 MW from the above Generation Licence of KEL. The said units were excluded from the Generation Licence of KEL for leasing the same to K-Energy (Pvt.) Limited (KEPL) for Coal Conversion.

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(B). Filing of Generation Licence Application

(i). In accordance with Section-15 of Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the NEPRA Act), KEPL filed an application on November 22, 2013, requesting for the grant of Generation Licence for the Unit No. 3 & 4 of BQPS-I previously excluded from Generation Licence of KEL as explained above.

(ii). In its above mentioned application, KEPL submitted that it has entered into a Lease Agreement with KEL. In terms of the said Lease Agreement, KEPL will convert the Unit No. 3 & 4 of BQPS-I for operating the same on Imported/Indigenous Coal. The Registrar examined the submitted application to confirm its compliance with the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 (the "Regulations"). It was observed that some of required information/documentation was missing. Accordingly, the Registrar directed KEPL for submitting the missing information/documentation. KEPL completed the missing information/documentation on January 28, 2014.

(iii). After submission of the necessary information/documentation, the Authority admitted the application under Regulation-7 of the Regulations on April 22, 2014 for the consideration of grant of a Generation Licence. Further, the Authority approved the Notice of Admission (NoA) to be published in daily newspapers, seeking comments of the general public as stipulated in Regulation-8 of the Regulations. The Authority also approved the list of interested/affected parties for sending NoA, for seeking comments for its assistance in the matter as stipulated in Regulation 9 of the Regulations. The NoA was published in one Urdu and one English National Newspaper on April 30, 2014 informing the general public, interested/affected parties and other stakeholders about the admission of the application and for inviting their comments in favor or against the grant of Generation Licence.

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(iv). Apart from above, separate letters were also sent to Individual Experts, Government Ministries, attached departments of the said ministries and Representative Organizations etc. on May 02, 2014 for submitting their views/comments in the matter for the assistance of the Authority to arrive at an informed and just decision.

(C). <u>Comments of Stakeholders</u>

(i). In reply to the above, the Authority received comments from eight (08) stakeholders. These included Mr. Aneel Mumtaz (AM), Mr. Ch. Mazhar Ali (CMA), Gresham's Eastern (Pvt.) Limited (GEPL), Ministry of Petroleum & Natural Resources (MoP&NR), Securities and Exchange Commission of Pakistan (SECP), Board of Investment (BoI), Mr. Anwar Kamal Law Associates (AKLA) and Transparency International Pakistan (TIP).

(ii). The summary of comments of the said stakeholders is explained as follows:-

(a). AM submitted that according to the advertisement, Generation Licence application of KEPL (Ex-KESC) for its Unit No. 3 & 4 of oil based thermal power plant BQPS-I, which will be leased out to KEPL has been accepted for consideration. He questioned that under which authority/licence KEPL had been running these units up till today so that now it required the generation Licence? He objected that why the annual performance report of KESC is not attached with the application for the generation licence? AM submitted that KEPL has not presented the engineering and technical qualification/experience of engineers and technical staff (i.e. (a) Mr. SON, YOUNG SEB; (b) Mr. ABID MAHMUD;

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(c) Mr. KUSNADI SUKARJA; (d) Mr. SHAHERYAR CHISHTY). He remarked that how can Mr. Shaheryar Chishty be CEO, Director-1 and employee at the same time? He contested that it is evident from the credentials of all these employees that none of them has ever worked on a coal conversion or coal start project. Had the PT Titan Mining Indonesia (PTMI), Bright Eagle Enterprises Group Limited and their special purpose company, KEPL gotten NOC from ministry of interior? Regarding the experience of PTMI in the power/electricity industry its own website is also blank. AM also remarked that KEPL did not mention anywhere the make & model of the coal start instrument and just a bird eye view of technology is given, which seems like copy-pasted from a website. Is the only document attached by KEPL related to Financial Consortium (FC) not just hoping for the arrangement of finances in the future? He questioned that is FC signed pursuant to Section 3(5)(d)(i) of the Regulations? PTMI is completely silent about the profile of its higher management. He informed that at units 3 & 4 of BQPS-1 environmental friendly equipment for measuring the emission values is not installed. Further AM expressed that KEPL must undertake the project of coal conversion on its own books. He argued that project timeline of twenty-six (26) months, specified for the coal conversion is not justifiable as according to the own news report of KEL it had completed four (04) units each of 560 MW in just 24 months. He contested that decommissioning of 380 MW units for a period of twenty-six (26) months is a conspiracy to worsen the situation of devastating economy of Pakistan. He recalled that when NTDC intended a reduction in the 650MW, the higher management of KEL resisted furiously and even sought court's interference by manipulating people for its self interest? Whereas now the higher management of KEL is decommissioning 380 MW from system for 26 months. Later on AM submitted additional comments whereby he stressed that only local coal should be used instead of imported, to discourage the drain of foreign exchange reserves of the country.

(b). CMA remarked that the newly formed KEPL, as SPV (Special Purpose Vehicle), formed by third party investors from Indonesia, Hong Kong & Korea, as an IPP is not correct. He clarified that in strict legal terms an IPP is an organization formed under the various Power Policies of the Government of Pakistan (GoP), by obtaining consents from various relevant government agencies, for establishing a "green field" power project producing power, to be sold exclusively to GoP owned entity in accordance with the terms & conditions of the Power Policy, 1994 (the Power Policy) under which it is established & also governed by the terms & conditions set by the Authority. Whereas, the proposed setup is merely an enterprise of the private sector, established for producing power, and to sell the same to another private sector company, engaged in the transmission & distribution of power in a specified licensed area for a limited period. Since the Authority has recently approved KEL request of LPM for Unit No. 3 & 4 of BQPS-I. Therefore, the hidden agenda of K syndicate is likely to be completed which is to extract money from available sources. Further he remarked that promoters of KEPL for e.g. Titan Industrial Group are the owners of coal mines

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in Indonesia from where the company will procure its requirements of coal for the next 20 years. The annual consumption of coal will be around 1.5 million tones. Since the promoters have their own vested interests of disposing their product. Hence there is no interest in power generation which will be actually managed by some other parties and not KEPL. CMA objected that two units are being leased out for 20 years at a very low rent without any security whereas, high tariff has been suggested. Moreover, he remarked that KEPL will not have sufficient space for stocking the coal and in case of coal conversion the entire labor of KEL presently working on these units will go idle. He remarked that the project of coal conversion to be taken up by KEPL should be taken up by KEL itself as the majority of the shareholders voted against leasing out the Unit No. 3 & 4 to KEPL. Further, he requested the Authority to hold a public hearing in Karachi on the above subject, so that it can have input from all the other stakeholders. He insisted that KEPL is not suitable company for generation license.

(c). GEPL in its comments expressed that in the said coal conversion project, KEPL would be changing the Boiler only therefore, due to the use of existing low efficiency Steam Turbine it would not be possible to attain the efficiency level of 39.5% required by the United Nations (UN). This may attract UN sanctions against Pakistan on account of violation of UN guidelines for emission of CO2. Further, GEPL stated that the CAPEX cost for the project as declared by the KEPL is incredibly higher than the standard cost, which will have adverse impact on the cost of power generation. Later on, GEPL offered

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additional comments stating that the Low Pressure Boiler is being changed only from HFO to Coal. The CO2 Emission will increase, which is in direct conflict with UN Regulations. The NOx will increase when compared with HFO. The Project cost for Boiler should not exceed U.S $ 50 Million whereas it is shown in excess of U.S. $ 400 Million. Moreover, GEPL stressed that if the Authority approved the grant of Generation Licence to KEPL, in spite of its above observations, it will file a constitutional Petition as well as refer the matter to NAB;

(d). MoP&NR expressed no objection to the grant of Generation Licence to KEPL;

(e). SECP commented that Listing of company on Stock Exchanges has many benefits. It not only enables the companies to tap additional avenue for fund raising but also build up investor's confidence and improves credentials of such companies. SECP suggested that sponsors of Generation Companies may be directed to get the Company listed on any domestic Stock exchange within a period of two years from commencement of the Business;

(f). BoI supported the proposal for Coal Conversion through third party foreign Investment;

(g). ALKA remarked that the Generation Licence Application is an outcome of the in principle approval of the LPM of KEL to exclude Unit No. 3 & 4 of BQPS-I from its Generation Facility and to lease out the same to KEPL for conversion to coal. KEL was given a target to

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increase its installed Capacity by 1000 MW through rehabilitation of its existing Power Plants and by installing new Power Plants. For this purpose, GoP provided a substantial amount as Financial Improvement Plan (FIP) under the Privatization Agreement to KEL. Whereas, KEL failed to add New Plants but replaced its existing Power Plants which is not the intended use of FIP. The exclusion of Units will further decrease Generation Capacity of KEL. He commented that the Authority has granted, in principle, approval of the LPM of KEL to exclude Unit No. 3 & 4 of KEL for leasing to KEPL subject to the grant of a Generation Licence to KEPL. One of the basic parameters to approve or disapprove the LPM is "Impact on Tariff". Whereas, in the case of the proposed modification, this has not yet been determined by the Authority. AKLA requested that before proceeding further, the Authority may ask KEL to provide details of the consumption of the FIP funds for the rehabilitation of Unit No. 3 & 4 of BQPS-I. He stressed that the Authority must have a cost-benefit analysis of the proposed changes carried out before making a decision about the same. Furthermore, he remarked that the Authority must also ensure that there is no physical progress prior to granting formal approval in respect of the LPM of KEL and the grant of a Generation Licence to KEPL;

(h). TIP informed that it has received a complaint about venue of public hearings at Islamabad, in the Matter of application of KEPL for the grant of Generation Licence. According to the complaint, the Authority has been reportedly taking discriminatory measures to benefit KEL at the cost of over [illegible] million consumers, who are

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located in Karachi, but the Authority is designating the venue of public hearing at Islamabad. TIP requested the Authority to reschedule the hearings on matters regarding KEL, at Karachi.

(D). Rejoinders of KEPL

(i). The Authority reviewed the above submitted comments of the stakeholders and found the same against the request of KEPL for the grant of Generation Licence, except BOI, MoW&P and SECP. In view of the said, the Authority considered it appropriate seeking perspective of KEPL on the observations of the above mentioned stakeholders.

(a). In response to the observations of AM, it was submitted that KEPL is a new company established for coal conversion of the Unit No. 3 & 4 of BQPS-I to be leased by KEL. The company i.e. KEPL will construct and install all new equipment that is required to convert these units on coal such as new coal fired boilers, coal and ash handling system and complete rehabilitation of existing BOP. Therefore, KEPL requires a Generation Licence for owning and operating these units for next 20 years as an IPP. Regarding observations of AM about technical and engineering staff, KEPL clarified that Mr. Abid Mahmud is a mechanical engineer with Masters Degree from the National University of Science and Technology and has many years of experience in power generation sector. His main expertise lies in the Operations and Project Management in Power Sector. He is Deputy COO and Project Director of KEPL. He has previously worked in reputable firms like KEL, the Hub Power Company and Samsung C&T, in Saudi Arabia. He has experience of

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working on power plants based on reciprocating engines, gas turbines and steam turbines. Similarly, Kusnadi Sukarja and Shaheryar Chishty are experienced management experts with many years of experience in developing and operating infrastructure projects. KEPL explained that Coal conversion or power projects are never executed or constructed by individuals or company directors and they only oversee and manage the process. KEPL stated that expert companies with global scale are retained to manage the design, procurement, construction and operation of power projects and similar approach would be adopted for this project. In the present case, Knight Piesold of the USA was engaged for the technical feasibility, Lahmeyer International of Germany & NESPAK of Pakistan as technical advisor and owners engineer, Harbin of China to undertake the EPC contract and KEPCO KPS of Korea to manage the operations and maintenance. It was clarified that, Lahmeyer + Harbin + KEPCO have over 100 years of combined experience in constructing, converting and operating coal power plants all over the world. Further KEPL clarified that currently there is no law, which disallows a director from becoming a CEO and an employee of a company. In reply to the observation of AM regarding NOC for foreign directors, it was submitted that KEPL is a new company and complete approvals for foreign directors from the Board of Investment, Securities Exchange Commission of Pakistan and the Ministry of Interior will be taken. Otherwise the directors will not be able to travel or work in Pakistan. KEPL submitted that its sponsor (i.e. PTMI) is a conglomerate in Indonesia and is engaged in the fields of Information Technology, Telecommunications, Energy, Mining, Power Generation and Transportation. A complete profile of PTMI has been submitted to the Authority with the application for the grant of generation licence. PTMI is one of the developers and sponsors of the project who are bringing a significant amount of foreign investment to Pakistan. There is no claim by PTMI that they will be designing, constructing or operating the KEPL power plant. However the project will be retaining the services of expert companies as explained above. KEPL has filed the application for the grant of the Generation Licence by providing all pertinent information as required by the Authority under the relevant rules and regulations. KEPL is a new company and at this time the entire envisaged investment cannot be shown on the financial statements, as this will only take place after the grant of tariff and financial close. Regarding undertaking the project on its own it was submitted that it is a wrong perception that executing the Coal Conversion Project under IPP mechanism will be more expensive than doing this project on KEL's books. KEL cannot execute this project on its books until next several years because of the financial constraints and its obligation to invest further funds in transmission and distribution businesses. Resultantly, KEL would keep on burning furnace oil to provide expensive electricity to its consumers whose cost is much higher than providing cheap coal fired energy today in the form of IPP investment. In response to the observation regarding project timeline, KEPL explained that the time schedule for project execution has been determined in consultation with the expert technical

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advisors and the EPC contractor. Further, the site is a Brownfield and not a Greenfield site.

(b). In response to the observations of CMA, it was submitted that KEPL is a Special Purpose Company (SPC) that has been formed by investors from Indonesia, Hong Kong and Korea for the purpose of undertaking the coal conversion Project. The very reason why the SPC has been created in Pakistan is to ensure that it complies with the laws of Pakistan and qualifies as an IPP. Regarding observation of CMA that KEPL does not qualify as an IPP it was submitted that, the Power Policy, 1994 was enacted to attract overseas investments and to facilitate tapping of domestic capital market to raise local financing for power projects. It also intended to accelerate the development of generation capacity through private sector resource mobilization and these private sector projects were called IPPs. It is incorrect to assume that the IPPs can only sell power to GoP owned entities. The IPPs such as Gul Ahmed Energy Ltd. and Tapal Energy (Pvt.) Ltd. are currently selling power to KEL, which is a privatized utility. The GoP's efforts to privatize other utilities within the country cannot be successful if such restriction in the definition of an IPP is imposed. Similarly, the argument for an IPP to be a "Greenfield" does not hold true as the KAPCO was a GOP entity before it was privatized in 1996 to become an IPP. Therefore, the real definition of IPP has no requirement for it to be a Greenfield. KEPL clarified that it will secure the requisite approvals from relevant Government agencies to qualify as an IPP. This structure is selected after multiple interactions, discussions and consultations with the

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regulator and other senior GoP officials. In rejoinder to the comments of CMA regarding conflict of interest of sponsors of the project, KEPL explained that Titan Group, through its various subsidiaries, holds coal mining concessions within the provinces of Sumatra and Kalimantan in Indonesia. The engagement of Titan is expected to bring useful experience of coal usage & handling to Pakistan and promote business ties between Pakistan and Indonesia. Moreover, KEPL clarified that pursuant to the Laws of the country, it is not unlawful to have transactions between associated companies. However, it is the job of the regulators (such as SECP and NEPRA), to ensure that the relevant agreements are made at arm's length. Additionally, KEPL is a private company which continuously comes under scrutiny of its stakeholders including shareholders, lenders, suppliers, consumers and regulators, which will not allow a compromise on the principle of equity. Therefore, a number of checks and balances through long term agreements (e.g. PPA, IA etc.) will ensure that the transactions of KEPL are at arm's length. In reply to the observation regarding shareholding, it was submitted that the shareholding in KEPL is not that of individuals but of companies. Hence the shareholding of BEEG Investments Limited rests with PTMI, Asiapak Investments Limited Hong Kong and Sprint Capital Partners Hong Kong. PTMI while providing coal for the project will also be injecting its own equity into the project. In justification of KEL not undertaking this Project on its own books KEPL reiterated the reply mentioned at Para C(i)(a) above. Moreover, KEPL explained that even if KEL was able to do this project on its own books, it

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would have not been cheaper than under IPP structure of current Multi Year Tariff Formula (MYTF) regime, as the MYTF of KEL is an incentive based tariff system whereby KEL is not given any direct return on its investment, but it earns its profits through efficiency improvement in its generation fleet. Since converting its units and generating electricity on coal would have been a new business/project for KEL, it would reduce costs of its generation fleet, and allow KEL to benefit a certain share from the overall savings under the current MYTF system. Hence, this conversion to coal will bring efficient and low cost energy on coal and will replace both own generation on oil as well as purchasing from oil based IPP. Therefore, it will bring down overall cost of the pool and will reduce consumer tariff and Government subsidies whether be it is own generation of KEL or purchase from an IPP. In response to the observation that majority of shareholders voted against the leasing in the Extra Ordinary General Meeting (EOGM), the representatives of KEL informed that EOGM was held on August 23, 2013. The nominee representing the GoP also attended the EOGM through proxy and the shareholders approved the resolution for lease of Unit No. 3 & 4 unanimously. Therefore, approval of the shareholders and GoP is available for the said leasing.

(c). In rejoinder to the comments of GEPL, it was submitted that Pakistan is going through an acute power shortage, therefore, the country has an urgent requirement to generate additional power for feeding into the national grid. Chronic power shortages in Pakistan are the most serious constraints to the country's economic growth and

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job creation. Increase in an unpredictable load shedding is estimated to constrain annual Gross Domestic Product (GDP) growth by at least 2%. Hardest hit are the small- and medium-sized enterprises that employ the most number of people but cannot afford back-up electricity generators and fuel. In addition to the economic impact, the shortage has environmental and social consequences as well. The environmental impact includes increased use of firewood, kerosene, biomass and small generators which results in emissions of Nitrogen Oxides (NOx), particulate matter and Sulfur Dioxide (SOx) from generator exhaust and contribute to the urban air pollution and noise pollution. Shortage of Natural Gas has resulted in increased power generation on High Speed Furnace Oil (HSFO) which contributed significantly increasing electricity tariff from PKR 5.50/kWh in 2008 to PKR 11.81/kWh in 2012. As the GoP subsidizes the electricity by almost PKR 3.17/kWh, the increasing dependence on HSFO has resulted in widening the budget deficit. The deficit is also making it difficult for the GoP to eliminate power subsidy due to political considerations. This, in turn, has affected the availability of cash to public sector power generation, and distribution companies. In addition to increasing the generation capacity, it is essential to lower the generation cost. In view thereafter, coal offers a promising option to provide affordable power and diversify the generation mix as per ambitions of the GoP to increase the share of coal-based generation from 0.07% to about 22% in 10 years. This will require converting existing HSFO generation units to coal. Electricity generated from coal, with long-term fuel supply contracts, will also add stability to the power price. The main objective of the proposed Project is to respond to the Energy Policy 2013 which envisaged the utilization of coal for cheaper power generation as one of its goals. Further, KEPL informed that Unit No. 3 & 4 of BQPS-I are unable to continue to generate electricity even at the current low capacity, inefficiency, due to non-availability of fuel oil and cash starvation. Therefore in such circumstances restoration of 420 MW to increase the availability upto 85% at an estimated cost of around US $550/KW, is justified. The comparison of cost of generation from different project alternatives, carried out at the delivered prices of US$745ton for fuel oil and US$125/ton for imported coal indicated that the proposed project is most cost effective. Calculation of country-wide impact for existing operations and for operations on coal shows that the country will realize annual savings of about US$505 Million. KEPL informed that Coal Conversion of the said units will increase the CO2 emissions by about 184,686t CO2e annually, nearly 6% increase from the baseline while the thermal efficiency of the plant will be improved by 3%. Regarding observations of GEPL pertaining to EIA/IEE it was submitted that EIA Study has been carried out by Hagler Bailey and Environmental Management Consultants (EMC), Pakistan. This indicated that the Project will help to reduce the SOx and NOx emissions due to HSFO. On the subject of violation of UN Regulation regarding environmental protection, KEPL stated that funding bodies like Asian Development Bank (ADB) & Japanese International Cooperation Agency (JICA) are funding such Coal Based projects in Pakistan e.g. Jamshoro Power Supply Project, Lakhra Coal Based

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Power Plant. Whereas, ADB & JICA are such bodies who do not fund any project until it is environmentally safe & feasible. On the subject of efficiency of the plant, KEPL stated that the actual gross efficiency of KEL's existing Unit 3 & 4 is around 34% at LHV. During the conversion project, existing Furnace Oil boilers will be replaced with brand new and high efficiency coal fired boilers whereas existing steam turbines and generators along with Balance of Plant will be completely rehabilitated to bring their performance back to name plate capacity and heat rates. This will improve the gross efficiency of converted units to around 38% at LHV. Conversely, if KEPL also considers changing the steam turbines and generators to cater the super-critical boilers, it will be like building the new plant all together, which will not provide time and cost savings associated with conversion projects. Regarding the CAPEX cost, KEPL clarified that it has conducted competitive bidding for EPC job inviting all major Chinese EPC Contractors and the best possible EPC price has been achieved through exhaustive negotiation. Detailed cost breakdown and justification of the cost would be submitted to the Authority during processing of the tariff petition.

(d). Regarding the observations of AKLA, it was submitted that approval of LPM of KEL before grant of Generation License to KEPL was required under the rules and regulations. Furthermore, this issue has been discussed and addressed at length during the processing of the LPM of KEL (Section (D) Comments of Stakeholders, Section (E) Public Hearing and Section (G) Analysis of the Authority in the Determination of the Authority in the

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Matter of LPM of KEL for Excluding Unit No. 3 & 4 of BQPS-I, dated March 27, 2014). In response to the query regarding FIP, KEPL explained that total expenditure incurred through FIP was PKR 13.698 Billion. In this regard, only PKR 0.75 Billion was spent on Generation whereas rest of PKR 12.948 was spent on Transmission and Distribution. Further, out of PKR 0.75 Billion spent on generation, PKR 350.57 Million was spent for the rehabilitation of Unit No. 3 & 4 of BQPS-I. This included the PKR 188.29 & PKR 162.28, spent on the rehabilitation of Unit No. 3 & 4 respectively. Therefore, it is evident from the detail provided above that the GoP's FIP focused mainly on Transmission and Distribution improvements. Moreover, it is pertinent to mention that KEL has spent US$ 726 Million for the addition of new generation capacity of 960 MW in the system.

(ii). The Authority considered the comments of the stakeholders, the rejoinders of KEPL, other details of the communicated LPM and decided to hold a Public Hearing in terms of Rule 3(4) of the NEPRA Licensing (Generation) Rules, 2000 (the Rules).

(E). Public Hearing

(i). In light of the above, notices were published in two (02) different newspapers including daily Dawn and Jang, informing the general public, interested/affected parties and other stakeholders about the date, venue and time of the proposed Public Hearing.

(ii). Apart from the above, separate letters were also sent to Individual Experts, Representative Organizations, Government Ministries and attached Departments etc. Informing about the proposed Public Hearing to be

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held on August 12, 2014. However, due to certain unavoidable circumstances, the Public Hearing was adjourned for September 05, 2014. Further, on the insistence of the stakeholders, the Authority decided holding the said Public Hearing at Karachi.

(iii). Accordingly, notices were published in two different newspapers including the News and daily Express, informing the general public, interested/affected parties and other stakeholders about the new date, venue and time of the proposed Public hearing.

(iv). Apart from the above, separate letters were also sent to Individual Experts, Representative Organizations, Government Ministries and attached Departments etc., informing about the new date, venue and time of the Public Hearing.

(F). <u>Adjournment of Public Hearing</u>

(i). The Public Hearing in the matter was held on September 05, 2014 at Marriot Hotel Karachi. In the said Public Hearing, different stakeholders participated.

(ii). The above stakeholders included AM, Mr. CMA, representatives of GEPL, Mr. Abu Bakar Usman of PASBAN, Mr. Adil Gillani of Whistle Blower Pakistan (WBP), SITE Karachi and AKLA. Apart from the said stakeholders, the representatives of KEL and KEPL also participated.

(iii). Mr. Anwar Kamal of AKLA representing WBP objected to the proceedings of the Public Hearing. He submitted that before proceeding further, the Authority must frame issues to be discussed during the Public Hearing. He emphasized that the Authority must adjourn the proceedings of the hearing and hold the same afresh after framing issues.

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(iv). The Authority acceded to the request of Mr. Anwar Kamal and decided to adjourn the Public Hearing. Further, the Authority decided to reconvene the same afresh after framing issues.

(G). Framing of Issues

(i). The Authority deliberated the comments of the stakeholders and the rejoinders submitted by KEPL and KEL. Accordingly, the Authority framed issues of Public Hearing as follows:-

(a). Unit No. 3 & 4 of BQPS-I were rehabilitated by using funding form GoP under FIP of KESC/KEL. What is the cost incurred on revamping/rehabilitation of these Units and why these Units are still de-rated?

(b). Why the Authority has granted "in-principle approval" of the communicated LPM of KEL for excluding Unit No. 3 & 4 of BQPS-I, as the there is no such provision in the relevant Regulations? The Authority must revoke the "in-principle approval" of LPM as the same is not in line with the relevant regulations?

(c). Whether KEPL has the capability and technical expertise to undertake the coal conversion project?

(d). Whether KEPL qualifies as an IPP?

(e). Pakistan can face UN sanctions by allowing low efficiency coal projects as the same is in direct conflict with UN 2C Regulations? Has the EIA been certified by a world class consultant like SGS/German-Lioyds etc, to check its compliance with all UN/EU/US laws?

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(f). In order to achieve the efficiency as required by UN (i.e. 39.5%), both the Steam Turbine and Boiler must be changed. Whereas, KEPL plans changing the boiler only which means that the efficiency will remain the same as for HFO (i.e. 34%). Will it not result in the (a). Increased fuel consumption per Kwh; (b). Higher CO2 emissions which will violate UN 2C Regulations; and (c). Increased cost per Kwh?

(g). The project cost for the proposed work (i.e. changing the boiler only) may not exceed US$ 50 million, whereas KEPL has shown the same in the excess of USD 400 million. Why is it so?

(h). Has the Authority convinced itself that fuel conversion of the old units is more feasible as compared to installation of a new coal based Power Plant?

(i). Why not KEL itself undertakes the coal conversion project as its Financial Heath stands improved now?

(j). Being located in the thickly populated area, has Environmental Protection Agency (EPA) Sindh given clearance for the operation of these Units on coal?

(k). What will be the impact on the workers of the KEL, working on the Unit No. 3 & 4 of the BQPS-I of KEL, when these Units are leased out to KEPL?

(l). The Sponsors of KEPL also have stakes in the coal mines located in Indonesia from where the coal will be

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imported for operating Unit 3 & 4 on coal. Is it a conflict of interest?

(m). What measures the Authority has taken to ensure that these Units remain operational and there is no physical progress for proposed coal conversion, prior to approval of the Authority after observation of all Rules and Regulations?

(n). Whether the suggested Tariff is appropriate when compared to upfront Tariff determined by the Authority for other coal based Power Plants?

(o). What will be the quantum of loss borne by the consumers, if KEPL is allowed to burn coal in-efficiently in old Power Plants of low efficiency (i.e. 30 to 32%)?

(p). What efforts have been made to ensure that prices of coal remain stable over the useful life of the Power Plant?

(ii). The above mentioned issues were published in two (02) different newspapers including daily Jang and Dawn, informing the general public, interested/affected parties and other stakeholders about the date, venue and time of the proposed Public Hearing.

(iii). Apart from the above, separate letters were also sent to Individual Experts, Representative Organizations, Government Ministries and attached Departments etc., informing about the new date, venue and time of the Public Hearing to be held at Karachi.

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(H). Reconvening of Public Hearing

(i). Accordingly, the Public Hearing was held on November 11, 2014. In the said, Public Hearing representatives of different stakeholders participated. These included AM, CMAI, Mr. Arif Bilwani, KEL, KEPL, SSGC, KCCI, EMC, WBP, Energy Department Govt. Of Sindh, APTMA, Energynews, SAMA TV, DAWN News and VSH News etc.

(ii). The Authority directed the representatives of KEL and KEPL for making a brief presentation on the concept of the project for the facilitation of the participants and its merits and demerits. Further, the Authority directed the representatives of KEL and KEPL for making a detailed presentation on the issues framed on the basis of the comments of the stakeholders.

(iii). About the details of the FIP amount spent on Unit No. 3 & 4 of BQPS-I, the representatives from KEL submitted that the total outlay of the FIP was Rs. 13.698 Billion. Out of this, only Rs.0.75 Billion was spent on the generation side and rest of Rs. 12.948 Billion was used for Transmission and Distribution improvement. The contribution of the FIP for all the generation projects was limited to Rs. 0.75 Billion. Out of the said, a total expenditure of approximately Rs. 0.35 Billion was made for rehabilitation of Units No 3 & 4 of BQPS-I, which counts only 2.5% of the total FIP. De-rating of these units is not the only concern at hand as the current proceedings pertains to the grant of Generation Licence to KEPL. It was submitted that the operation of existing units (i.e. Unit No. 3 & 4 of BQPS-I) in their current state using RFO will result in significantly higher cost of generation as compared to operation on coal. Therefore, the Project shall enable generation of electricity utilizing coal, at a higher capacity and significantly lower costs of production.

(iv). Regarding the observation that why the Authority granted "in-principle approval" of the communicated LPM of KEL for excluding Unit No. 3 & 4 of BQPS-I, it was submitted that Regulation 10(5)(a), 10(5)(c), and

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10(5)(e) of the Regulations, particularly empowers the Authority to modify a license in accordance with the LPM, if in the opinion of the Authority the said modification, among others, (a). does not adversely affect the performance by the licensee of its obligations; (b). is or is likely to be beneficial to the consumers; and is (c). reasonably necessary to ensure the continuous, safe, and reliable supply of electric power to the consumers keeping in view the financial and technical viability of the licensee. Units No 3 & 4 are not being excluded from the system, as KEL shall enter into a long term PPA with KEPL, thereby enabling generation of electricity at three (03) times less cost, as compared to the currently generated on RFO. Therefore, the case of LPM of KEL was eligible for admission and in accordance with the applicable rules and regulations, approval of the same is discretion of the Authority.

(v). On the subject of the ability of KEPL to undertake the coal conversion project. It was stated that the application for the grant of Generation License was filed in accordance with the relevant rules and regulations, and all the required information has been submitted to the Authority. This information is readily available on the Authority's website for the knowledge of general public, interested/affected parties and other stakeholders. Given that, KEPL has already indicated its capability and technical expertise to undertake the Project in its Generation License application, therefore, it is for the Authority to assess the same prior to grant of the Generation License. Moreover, it is to be noted that the main sponsors of KEPL have sound industrial experience and will bring with them the coal expertise to Pakistan. Also, the general practice is to engage EPC contractors having established credentials for construction of a power plant or conversion of one to other fuels. Similarly, it is a standard practice to engage companies with O&M expertise for plant operations. KEPL is established as an IPP structured in a typical manner of IPPs in Pakistan, and shall be performing all functions expected of an IPP in this regard.

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(vi). On the issue of qualification of KEPL as an IPP, it was submitted that various legal documents in Pakistan define IPP as "an Independent Power Producer established in private sector operating under a license issued by the Authority for the purpose of generation and sale of electric power, and governed by various IAs executed between the Islamic Republic of Pakistan and the private sponsor(s) of the Power Project." In light of the above and the fact that the proposed operational structure of KEPL resembles that of a typical IPP, KEPL may therefore be classified under the same category. Moreover, this concern has already been thoroughly addressed and deliberated at the LPM stage, and does not need to be reconsidered at this stage.

(vii). As regard the possible sanctions by allowing low efficiency coal projects, it was clarified that UN 2C is a target to mitigate the increase in global temperature to below 2° Celsius and was recognized in the Copenhagen Accord. It is a document proposed for ratification during the 15th session of Conference of Parties (COP 15) to the United Nations Framework Convention on Climate Change (UNFCCC), held in 2009. The Copenhagen Accord is not legally binding, and the previous extension of UNFCCC, the Kyoto Protocol set binding emissions target for only 37 countries, not including Pakistan, and expired in 2012. Furthermore, Pakistan, a developing country, is classified as a Non-Annexure-I party to UNFCCC which recognizes the development needs of a developing country and therefore does not legally or otherwise binds the same with emission reduction targets. Therefore, all such acts for Non-Annexure-I countries are currently governed by the law of the land, and no threat of UN sanctions is faced on this account. The EIA for the Project was conducted by Hagler Bailly and EMC, and the same has been approved by SEPA by issuing a NOC for the implementation of the Project.

(viii). As regards achieving the efficiency, it was re-iterated that Pakistan is a developing country and is classified as a Non-Annexure-I party

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to UNFCCC which recognizes the development needs of a developing country. Therefore, it does not legally or otherwise binds the same with emission reduction targets for UN 2C. Further, it was informed that KEPL has conducted an EIA for the Project and SEPA has issued a NOC in approval of the same. Moreover, in comparison to the units in their current state generating on RFO (due to unavailability of gas), the Project will utilize coal for power generation which is a significantly cheaper source of fuel in comparison to RFO (approximately one third the cost of RFO). Because of this, increase in efficiency coupled with higher capacity, the cost per kWh of electricity shall reduce considerably. Moreover, the matter of generation cost (tariff) shall be the subject of tariff determination for the Project by the Authority, and is thus irrelevant at this stage.

(ix). Regarding the higher possible cost of the conversion project, the representatives of KEPL re-iterated its clarification mentioned at D(i)(c) that it has conducted competitive bidding for EPC job inviting all major Chinese EPC Contractors and the best possible EPC price has been achieved through exhaustive negotiation. The bids were evaluated by KEL, KEPL and independent engineers. Thus the cost estimates are result of an ICB process and the claim for U.S. $ 50 Million seems to be ignorant of basic engineering and power plant procurement. The Project Cost and its impact on Tariff shall be the subject of the Tariff approval stage, and the Authority shall scrutinize all costs for justification prior to determination of tariff for the Project. Therefore, this is an irrelevant concern for approval of Generation Licence. Concerning the issue whether the fuel conversion of the old units is more feasible as compared to installation of a new coal based Power Plant, it was clarified that the Project Cost for the conversion Project is estimated at USD 1.37 Million per MW, as compared to the cost of USD 1.62 Million per MW as determined by the Authority for installation of coal based new power plants. This enables savings of approximately USD 100 Million for a 420 MW plant. Moreover, the only option available is conversion of the existing units, and the current transaction structure of implementation through KEPL has

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been proposed as it is the quickest means (two years against four for implementation of new plant) of ensuring cheaper energy generation at a lower cost of production. It is to be understood that the case at hand is either to continue generating expensive electricity using these units in their existing state or convert them to the cheaper source of coal fuel in line with National Power Policy 2013. This framework also utilizes the existing assets to drive down the implementation costs, as the existing units would either have been idle or forced to generate electricity utilizing the more expensive RFO fuel.

(x). Regarding the issue that why KEL cannot itself undertake the coal conversion project, it was clarified that the Authority had granted three separate Licences for Generation, Transmission and Distribution to KEL. Further, being a vertically integrated entity it has to make investments in all the said areas of the Supply Chain of its Electric Power Sector. KEL explained that due to various constraints related to existing cash flow position and future obligations, it is not in a position to undertake the Coal Conversion Project itself. The Coal Conversion will require cash investment of around U.S. $ 400 Million. Further, KEL explained that since FY-2009-2010, it has incurred capital expenditure of U.S. $ 988 Million including U.S. $ 726 million in Generation and the rest in Transmission and Distribution segments of its supply chain. In order to fund such large capital expenditure, the sponsors of KEL injected equity worth U.S. $ 484 Million and also raised long term debt of U.S. $ 450 Million. The repayment of long term debt has already started and KEL has to make principal payments of Rs. 15 billion every year to the long term lenders. In view of said, KEL has decided carrying out the project through a third party investment of KEPL.

(xi). On the issue of clearance of the Coal Conversion Project from SEPA, it was explained that Hagler Bailly and EMC carried out the EIA. The same was submitted to SEPA for evaluation, assessment and approval. SEPA approved EIA and subsequently issued a NOC for the implementation

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of the Project. It was also clarified that there is no population within the limits of Port Qasim and the EIA concluded that there will be no population impact.

(xii). About the impact on the workers of the KEL, working on the Unit No. 3 & 4 of the BQPS-I of KEL, when these Units would be leased out to KEPL, it was clarified that the operational structure has been proposed in a manner where KEL will enter into an O&M Agreement with KEPL. It was confirmed that the existing work force of Unit No. 3 & 4 of BQPS-I will be utilized for operation and maintenance of the Coal Conversion Project.

(xiii). As regard the issue of stakes of the sponsors of KEPL in the coal mines located in Indonesia from where the coal will be imported for the Coal Conversion Project, it was submitted that KEL is a vertically integrated utility and by bringing KEPL into the system shall enhance its supply chain to include fuel supply through long term contractual obligations. It was clarified that the Coal Supply Agreement (CSA) shall be an arm's length transaction, and the price of coal shall be set in accordance with international benchmarks, and not independently agreed between the two entities. Also, the same shall be subject to the Authority's scrutiny when determining the FCC charges at the tariff approval stage. It was submitted that the sponsors of KEPL shall be able to bring in extensive coal supply and handling experience which will be an added advantage in the transaction in the form of long term coal supply security.

(xiv). The representative of KEL confirmed that there is no physical progress in implementation of the Project so far and this fact can be confirmed by physical verification at site. On the issue of the reasonability of the tariff, it was submitted that the case at hand is approval for grant of Generation License to KEPL. Therefore, this issue is not relevant at this stage. The reasonability of the tariff would be taken up by the Authority at the time of processing of either the Tariff Petition or the Power Acquisition

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Request (PAR) to be filed by KEL. The representative of KEL clarified that the Coal Conversion Project would be beneficial as it would result in lowering the consumer end tariff. Therefore, the Coal Conversion Project would not have any negative impact for the end consumer.

(xv). About the satiability of the coal prices, the representatives of KEPL and KEL explained that Coal is an internationally traded commodity. Its prices are not fixed over long term duration and fluctuate in accordance with the international market. The only factor that can be fixed is the security of the long-term supply through contractual obligations, which KEPL shall enter into to ensure the same.

(I). Analysis of the Authority

(i). The key features of the application of KEPL are that it has proposed to convert the two under-utilised and de-rated generating Unit-3 & 4 of BQPS-I of KEL, for operation on imported coal. Whereas, KEL on account of its financial constraints has shown its inability to carry out the conversion of units itself for operation on coal.

(ii). The Authority after having considered submissions of KEPL, the comments of stakeholders, rejoinders filed by KEPL and KEL and other related documents including the NEPRA Act, relevant Rules and Regulations, framed the issues as explained at Para-G above. The Authority examined the issues and findings in this regard are given in the following paragraphs.

(iii). **Unit No. 3 & 4 of BQPS-I were rehabilitated by using funding form Government of Pakistan (GoP) under Financial Improvement Plan (FIP) of KESC/KEL. What is the cost incurred on revamping/rehabilitation of these Units and why these Units are still de-rated**? The Authority has noticed that in order to facilitate KEL (the then KESC) for privatization and to fetch a better price, the GoP made expenditure

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through FIP. Out of total outlay of Rs. 13. 698 billion, the total expenditure made on rehabilitation generation facilities was Rs. 0.75 billion which accounts for only 5.48% of the FIP. The Authority is of the considered opinion that it was only due to the said expenditure that privatization was made possible. The Authority considers that the matter of expenditure of FIP does not relate to the current application of KEPL for the consideration of grant of Generation Licence therefore, this objection is not valid anymore.

(iv). **<u>Why the Authority has granted "in-principle approval" of the communicated Licensee Proposed Modification (LPM) of KEL for excluding Unit No. 3 & 4 of BQPS-I, as the there is no such provision in the relevant Regulations? The Authority must revoke the "in-principle approval" of LPM as the same is not in line with the relevant regulations</u>**? The Authority approved the LPM of KEL for exclusion of Unit No. 3 & 4 of BQPS-I with the condition that the same shall stand revoked if KEPL fails to get a Generation Licence. In this regard, it is clarified that in its determination for LPM of KEL, the Authority did not use the word "in principle approval". Therefore, the Authority is of the view that the contention of the stakeholder is not tenable and does not merit any consideration. The Authority reiterates that the approved LPM of KEL for exclusion of Unit No. 3 & 4 was carried out after completing all the formalities as stipulated in the relevant regulations.

(v). **<u>Whether KEPL has the capability and technical expertise to undertake the coal conversion project</u>**? The Authority has reviewed the submitted information by KEPL, the same revealed that the sponsors of KEPL are involved in developing projects pertaining to electric power sector. Further, the explanation provided by KEPL that it will be engaging experienced EPC and O&M contactor for the construction and operation of the plant, is worth considering. In this regard, the Authority considers it pertinent to mention that the deploying of EPC and O&M Contactors is a universal practice and is followed all over the world including Pakistan. It is

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relevant to state that Power Sector Projects are financed on the basis of non-recourse financing. Therefore, the risk of the lending institutions is much more than an ordinary consumer. As a matter of fact, the lending agencies carry out a comprehensive due diligence before financing any such project. However, at the same time it is also a fact that lending institution does not considerer financing the projects unless and until the regulatory and other formalities are completed. In view of the said and evidence/information available on record it is clear that KEPL has necessary experience and expertise to deal with such project and to undertake the coal conversion project. Therefore, the objections in this regard stand addressed.

(vi). **<u>Whether KEPL qualifies as an Independent Power Producer (IPP)</u>**? According to the existing regulatory regime in the country, any entity interested in setting a generation facility is required to have a Generation Licence under Section 15 of the NEPRA Act. For the purpose of a Generation Licence, the Authority considers the entity as a generation company as stipulated in Section 2 (xii) to be incorporated under the companies Ordinance as described in Section 24 of the NEPRA Act. The sponsors of the coal conversion project have already incorporated a special purpose company under companies ordinance 1984 in the name of KEPL. Therefore, the very basic requirement of the NEPRA Act stands satisfied. Therefore, the issue needs no further deliberation and discussion.

(vii). **<u>Pakistan can face UN sanctions by allowing low efficiency coal projects as the same is in direct conflict with UN 2C Regulations? Has the EIA been certified by a world class consultant like SGS/German-Lioyds etc. to check its compliance with all UN/EU/US laws</u>**? The sponsors of the coal conversion project have provided necessary clearance from SEPA. Therefore, in the opinion of the Authority, this issue stands resolved.

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(viii). **<u>In order to achieve the efficiency as required by UN (i.e. 39.5%), both the Steam Turbine and Boiler must be changed. Whereas, KEPL plans changing the boiler only which means that the efficiency will remain the same as for HFO (i.e. 34%). Will it not result in the (a). Increased fuel consumption per Kwh; (b). Higher CO2 emissions which will violate UN 2C Regulations; and (c). Increased cost per Kwh</u>**? As explained above, after the issuance of the NOC of SEPA, the issue stands resolved and needs no further deliberation.

(ix). **<u>The project cost for the proposed work (i.e. changing the boiler only) may not exceed US$ 50 million, whereas KEPL has shown the same in the excess of USD 400 million. Why is it so</u>**? The Authority is of the considered opinion that the current case pertains to the grant of Generation Licence and issues relating to the cost are not deliberated at this stage. The matter of costs and tariff will be considered and decided at the time of determination/approval of tariff of the coal conversion project.

(x). **<u>Has the Authority convinced itself that fuel conversion of the old units is more feasible as compared to installation of a new coal based Power Plant</u>**? The current energy mix of the country is highly skewed towards imported furnace oil. In order to rationalize the energy mix, it is considered appropriate that oil based plants are operated on a relatively cheaper fuel. In this regard, it is considered appropriate that existing RFO plants are converted for operation of coal. Recently. ECC has decided to allow four Power Projects/Plants in the Private Sector to be converted for operation on Coal including Nishat Lalpir, Nishat Pakgen, Saba and HUBCO. In fact, three of the said, Licensees have already filed tariff petition and the same are under consideration of the Authority. In view of the said, it is considered that there should be no reservations/objection if the existing plants are converted for coal operation. In fact the initiative will be in line with the spirit of the Power Policy 2013 and mandate of NEPRA to ensure safe, reliable and affordable power to consumers.

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(xi). Why not KEL itself undertakes the coal conversion project as its Financial Health stands improved now? There is no regulatory restriction that can bind KEL to carry out this conversion itself. As explained by KEPL this particular issue was discussed/deliberated in a number of hearings/meeting pertaining to the LPM of KEL. According to information provided, the current capacity of KEL to raise another U.S. $ 300 + million on its books is impractical mainly due to various covenants within the long term lending agreements. Therefore, if KEL is required to do the conversion itself, this will push the conversion project several years into future and deprive the country of an opportunity to turnaround the fate of the dilapidated power sector. KEL stressed that the emphasis should be on do-ability of a project rather than wishes. The sponsors of KEPL have shown commitment to undertake the coal conversion project under an IPP structure. KEPL is still negotiating the financing structure of the project with the lenders and an appropriate market based investment structure will be finalized with the approval of the Regulator.

(xii). Being located in the thickly populated area, has Environmental Protection Agency (EPA) Sindh given clearance for the operation of these Units on coal? SEPA has issued necessary NOC for the Project. Therefore, the objection does not merit any further consideration.

(xiii). What will be the impact on the workers of the KEL, working on the Unit No. 3 & 4 of the BQPS-I of KEL, when these Units are leased out to KEPL? The submissions of the sponsors in the matter that the operational structure has been proposed in a manner where KEL will enter into an O&M Agreement with KEPL and existing work force of Unit No. 3 & 4 of BQPS-I will be utilized for operation and maintenance of the Coal Conversion Project are rationale. Therefore, the issue stands resolved.

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(xiv). **<u>The Sponsors of KEPL also have stakes in the coal mines located in Indonesia from where the coal will be imported for operating Unit 3 & 4 on coal. Is it a conflict of interest</u>**? It is a worldwide practice for an entity to start a business on the basis of its strengths. For coal project to be successful, it is imperative that it has a very efficient Supply Chain System. If the sponsors of the KEPL have stake in coal mines at Indonesia then this should be considered as a merit for the success of the project instead of an objection. Further, the fuel cost of the proposed project shall be determined by the Authority therefore, the stakes of the sponsors of KEPL in coal mines, if any, shall not affect the merits of the case and costs approved by the Authority.

(xv). **<u>What measures the Authority has taken to ensure that these Units remain operational and there is no physical progress for proposed coal conversion, prior to approval of the Authority after observation of all Rules and Regulations</u>**? As explained at Para-D(d) above, KEL has confirmed that no physical activity for conversion has started as yet. Therefore, the issue stands settled.

(xvi). **<u>Whether the suggested Tariff is appropriate when compared to upfront Tariff determined by the Authority for other coal based Power Plants</u>**? The current case pertains to the grant of Generation Licence and issues relating to the cost are not deliberated at this stage. The reasonability and appropriateness of the tariff shall be determined by the Authority at the time of determination/approval of the tariff.

(xvii). **<u>What will be the quantum of loss borne by the consumers, if KEPL is allowed to burn coal in-efficiently in old Power Plants of low efficiency (i.e. 30 to 32%)</u>**? The conversion on coal will actually be beneficial for the consumers instead of any loss.

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(xviii). **<u>What efforts have been made to ensure that prices of coal remain stable over the useful life of the Power Plant</u>**? It is not possible to ensure that prices of imported coal remain unchanged during the lease period of twenty (20) years. As per the provisions of Section 31 (4) of the NEPRA Act, any variations in the approved tariff on account of change in the fuel prices are required to be considered and taken care of on monthly basis. Therefore, this observation is uncalled for and cannot be considered by the Authority.

(J). <u>Grant of Generation Licence</u>

(i). The sustainable and affordable electric power is a key for socio-economic development of any Country. In fact, the Economic Growth of any Country is directly linked with the availability of safe, secure, reliable and cheaper supply of electricity.

(ii). The existing energy mix of the country is heavily skewed towards the costlier thermal power generation, mainly operating on imported furnace oil. The continuously increasing trend in fuel prices is creating pressure on the precious foreign exchange reserves of the country. Therefore, in order to achieve sustainable development it is imperative that energy mix of the country needs to be changed in favour of lower cost. The electric power generation through Coal is one of the oldest technologies in the world and about 40% of the world electrical energy requirements are being met through this fuel. Whereas, in countries like Mongolia (95%), South Africa (93%), Poland (83%), People's Republic of China (81%), India (71%) Australia (69%), Israel (61%), Indonesia (48%), Germany (44%) of the electricity is generated using Coal. Further, developed countries like UK (39%), USA (38%) and Japan (21%) are utilizing significant amount of Coal for electricity generation.

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(iii). In consideration of the above, the Authority considers it imperative to have electric power generation utilizing imported as well as indigenous coal. In order to fix the problem of the inappropriate energy mix, the Authority considers it vital not only setting up new generation facilities on coal but also converting existing RFO based generation facilities/power plant for operating on coal.

(iv). The GoP has unveiled a new policy titled National Power Policy 2013 (the Policy 2013). The Policy 2013 envisages not only building/setting up of new generation facilities using low cost resources. Apart from the said, the Policy also envisages a strategy for moving towards cheaper fuels. For this purpose, the GoP has identified expensive RFO Power Plants/Generation Facilities for converting the same to Coal. In this regard, the GoP has signed Memorandum of Understanding with four (04) existing IPP for converting their Generation facilities/Power Plants to coal.

(v). The Authority considers the initiative of KEL for converting its two Units (i.e. Unit No. 3 & 4 of BQPS-I) to Coal, in line with the above initiative of the GoP. Due to this very reason, the Authority allowed a LPM of KEL for excluding its above mentioned two units from its generation fleet. The Authority made the said LPM contingent on the outcome of the application of KEPL, submitted for the grant of Generation Licence for two units (i.e. Unit No. 3 & 4) of the BQPS-I for converting the same for operation on Coal.

(vi). The Authority has duly considered the details provided by KEPL in its application for the grant of Generation Licence, the comments of the stakeholders and other proceedings of the case. In this regard, the Authority is satisfied that KEPL has complied with all the requirements of the relevant rules and regulations. Therefore, the Authority is satisfied that KEPL qualifies for the grant of Generation Licence.

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(vii). The term of a Generation Licence under the Rule-5 (1) of the Rules, is to be commensurate with the maximum expected useful life of the units comprised in a generating facility. According to the information provided, after the Coal Conversion the generation facility leased to KEPL from KEL will have a useful life of twenty (20) years. Further, KEPL and KEL have confirmed that parties will be entering into a Lease Agreement/Power Purchase Agreement for the same Term. KEPL has requested that the term of its Generation Licence may be set accordingly. In view of the said, the Authority fixes the term of the proposed Generation Licence of KEPL to be twenty (20) years from the Commercial Operation Date (COD).

(viii). Regarding the Tariff, it is hereby clarified that under Section-7(3)(a) of the NEPRA Act, the determination of tariff, rate and charges etc. is the sole responsibility of the Authority. In terms of Section-31 of the NEPRA Act read with relevant provisions of the NEPRA (Tariff Standards and Procedure) Rules, 1998, a Generation Company may file a Tariff petition for determination of its Generation Tariff. Further, in terms of Section-32 of the NEPRA Act read with relevant provisions of the NEPRA Interim Power Procurement (Procedures and Standards) Regulations, 2005, a Generation Company may approach a Transmission or Distribution company for filing a PAR and for negotiating a Power Acquisition Contract (PAC). Therefore, KEPL may opt either of the methodology and approach the Authority accordingly. Further, the Authority directs KEPL to charge only such tariff from the Power Purchaser as determined, approved or specified by the Authority as stipulated in Rule-6 of the Rules.

(ix). The proposed Generation Facility of KEPL, for which Generation Licence has been sought, will be based on Imported Coal. The Coal based Generation Facilities may be harmful to environment because of emission of Green House Gases (GHG) and production of ash and other effluents. In this regard, KEPL confirmed that proposed Generation Facility would have Air emission control equipment (including an Electro Static

Precipitator). Further, a Flue Gas Desulfurization (FGD) system would also be installed to lower GHG emissions. Also Selective Catalytic Reduction system (SCR) would be installed to ensure that NOx emission complies with National and Global standards. Waste water would be treated and utilized in-plant, with a small quantity of effluent discharged after further treatment to meet environmental standards. Conventional solid wastes would be disposed at the ash pond, while hazardous waste would be collected and treated in-plant. Periodic monitoring of groundwater would be done to prevent water contamination. Efforts would be made to maximize use of fly ash and gypsum to reduce waste disposal. Water would be constantly sprayed in the coal yard to reduce coal dust. Sound attenuation material would be applied on machinery generating high noise levels. Pollution monitoring system inside and around the station would be set up to constantly monitor the environmental conditions. A lot of ash is produced during the operation of a Coal Based Power Plant. In order to handle ash, it has been informed that a cofferdam will be built around ash yard. Drainage channel will be set at cofferdam foot to prevent it from rainwater washing. In order to prevent fly ash and bottom ash from polluting underground water after being wetted by rainwater, anti-seepage geo-membrane will be laid on bottom of ash yard and inner slope of cofferdam, forming a basin-shaped anti-seepage system, which can isolate fly ash and bottom ash from contacting outside world. In short, KEPL has assured compliance of the Environment Standards and has also provided a NOC from Environmental Protection Agency Govt. of Sindh (EPAGoS). However, to ensure that the Generation Facility conforms to the environment during the term of the Generation Licence, a separate article has been included along with other terms and conditions that the Licensee will comply with relevant environmental standards. Further, the Authority also directs KEPL to submit a quarterly report confirming that operation of its proposed Generation Facility is compliant with required Environmental Standards prescribed by EPAGoS.

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(x). In view of the above, the Authority hereby decides to approve the grant of Generation Licence to KEPL on the terms and conditions as set out in the Generation Licence annexed to this determination. The grant of Generation Licence will be subject to the provisions contained in the NEPRA Act, relevant rules, regulations framed there under and other applicable documents. As explained at Para H(v) above, the Authority while approving the LPM of KEL for excluding the Unit No. 3 & 4 of BQPS-I made the same contingent on the outcome of the application of KEPL for the grant of Generation Licence. Further, the Authority decided that the amended Schedule- I & II of the Generation Licence of KEL will be issued once the Authority decides the application of KEPL for the grant of Generation Licence. As the Authority has approved the grant of Generation Licence of KEPL therefore, required amendments in Schedule-I & II of the Generation Licence of KEL is also being issued herewith.

Authority

Himayat Ullah Khan
Member
12.3.15

Maj. (R) Haroon Rashid
Member
13/3/15

Khawaja Muhammad Naeem
Member
13 3 XV

Habibullah Khilji
Member/Vice Chairman
12/3/2015

Brig. (R) Tariq Saddozai
Chairman
13\3\

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
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13.03.15

National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan

GENERATION LICENCE

No. IGSPL/48/2015

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

K-ENERGY (PVT.) LIMITED

Incorporated Under Section 32 of the Companies Ordinance, 1984
Having Cooperate Universal Identification No. 0081549, dated October 30, 2012

for its Imported/Indigenous Coal Based Thermal Generation Facility
Located at Bin Qasim Industrial Park at Port Qasim, Karachi
in the Province of Sindh

(Installed Capacity: 421.90 MW Gross)

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

Given under my hand this 13th day of March Two Thousand & Fifteen and expires on 30th day of January Two Thousand & Thirty Eight.

Registrar

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Article-1
Definitions

1.1 In this Licence

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

(b). "Authority" means "the National Electric Power Regulatory Authority constituted under section 3 of the Act";

(c). "Bus Bar" means a system of conductors in the generation facility of the Licensee on which the electric power of all the generators is collected for supplying to the Power Purchaser;

(d). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility of the Licensee is commissioned;

(e). "Grid Code" means the grid code prepared by NTDC or KEL and approved by the Authority, as it may be revised from time to time by NTDC or KEL with any necessary approval by the Authority;

(f). "KEL" means "K Electric Limited" and its successors or permitted assigns;

(g). "Licensee" means "K-Energy (Pvt.) Limited" and its successors or permitted assigns;

(h). "NTDC" means National Transmission and Despatch Company Limited and its successors or permitted assigns;

(i). "Power Purchase Agreement" means the power purchase agreement, entered or to be entered into by and between the

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Power Purchaser and the Licensee, for the purchase and sale of electric energy generated by the generation facility, as may be amended by the parties thereto from time to time;

(j). "Power Purchaser" means KEL purchasing power from the Licensee;

(k). "Rules" mean "the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000";

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

Article-2
Application of Rules

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

Article-3
Generation Facilities

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

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

3.3 The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its generation facility before its COD.

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Article-4
Term of Licence

4.1 The Licence is granted for a term of twenty (20) years from the COD of the generation facility.

4.2 Unless suspended or revoked earlier, the Licensee may within ninety (90) days prior to the expiry of the term of the Licence, apply for renewal of the Licence under the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time.

Article-5
Licence fee

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

Article-6
Tariff

The Licensee shall charge only such tariff which has been determined, approved or specified by the Authority in terms of Rule-6 of the Rules.

Article-7
Competitive Trading Arrangement

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

7.2 Any variation or modification in the above-mentioned contracts for allowing the parties thereto to participate wholly or partially in the Competitive Trading

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Arrangement shall be subject to mutual agreement of the parties thereto and such terms and conditions as may be approved by the Authority.

Article-8
Maintenance of Records

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

Article-9
Compliance with Performance Standards

The Licensee shall comply with the relevant provisions of the National Electric Power Regulatory Authority Performance Standards (Generation) Rules 2009 as amended from time to time.

Article-10
Compliance with Environmental Standards

10.1 The Licensee at all times shall comply with the environmental standards as may be prescribed by the relevant competent authority as amended from time to time.

10.2 The Licensee shall provide a certificate on a bi-annual basis, confirming that the operation of its generation facility is in line with environmental standards as prescribed by the relevant competent authority.

Article-11
Power off take Point and Voltage

The Licensee shall deliver power to the Power Purchaser at the outgoing bus bar of its grid station. The up-gradation (step up) of generation voltage up to the required Interconnection voltage level will be the responsibility of the Licensee.

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Article-12
Provision of Information

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

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

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SCHEDULE-I

The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule

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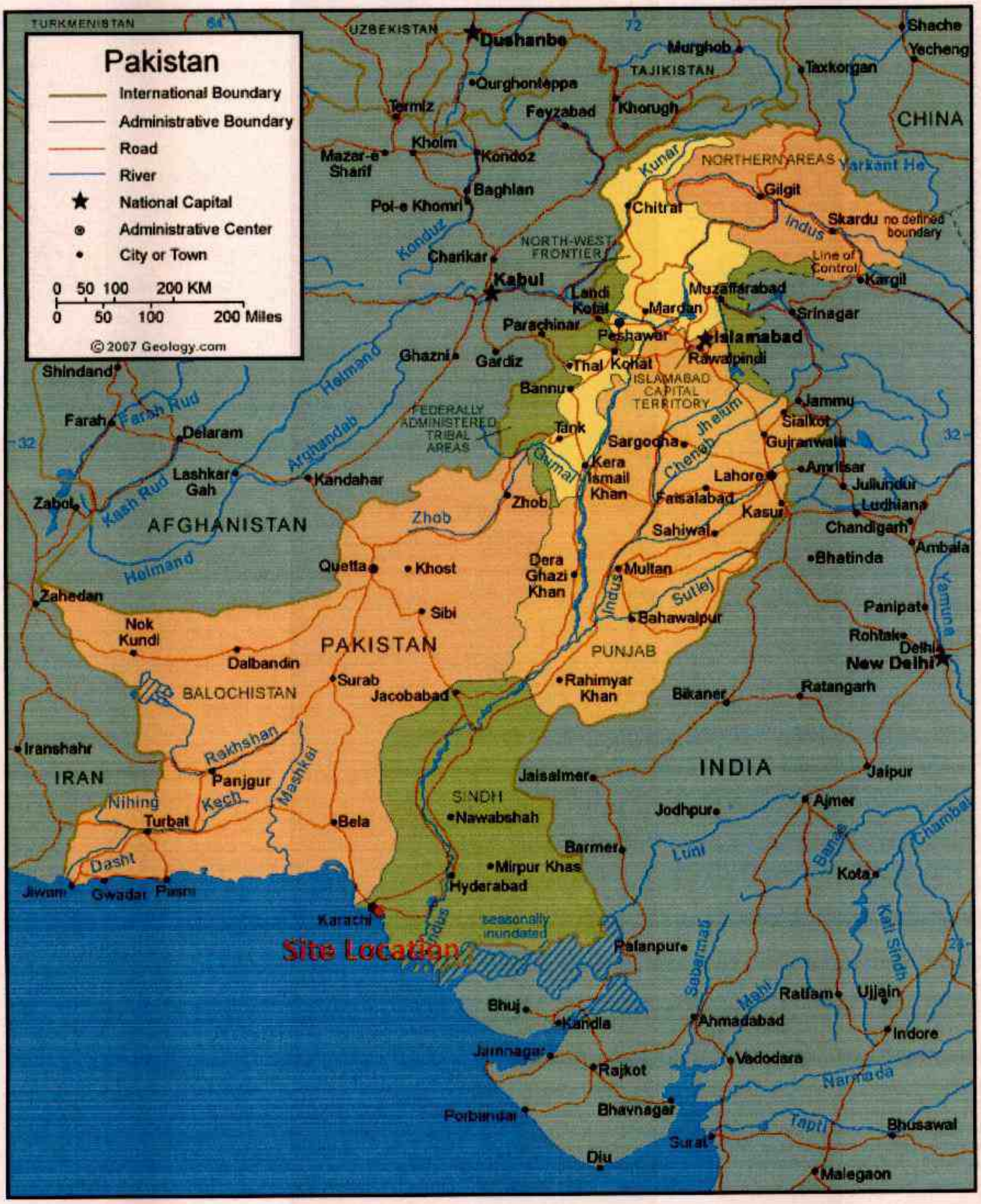
Location of the Generation Facility on Map of Pakistan



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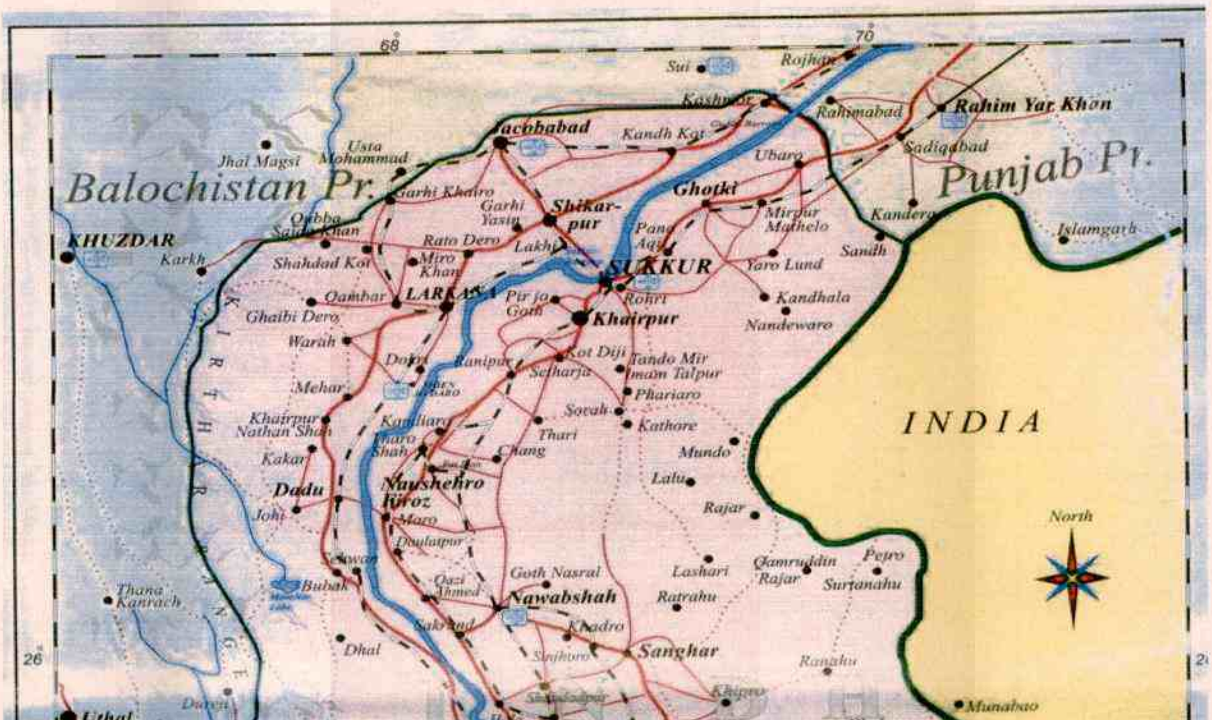
Generation Licence
K-Energy (Pvt.) Limited
Bin Qasim Industrial Park
at Port Qasim, Karachi
in the Province of Sindh

Location of the Generation Facility on Map of Sindh



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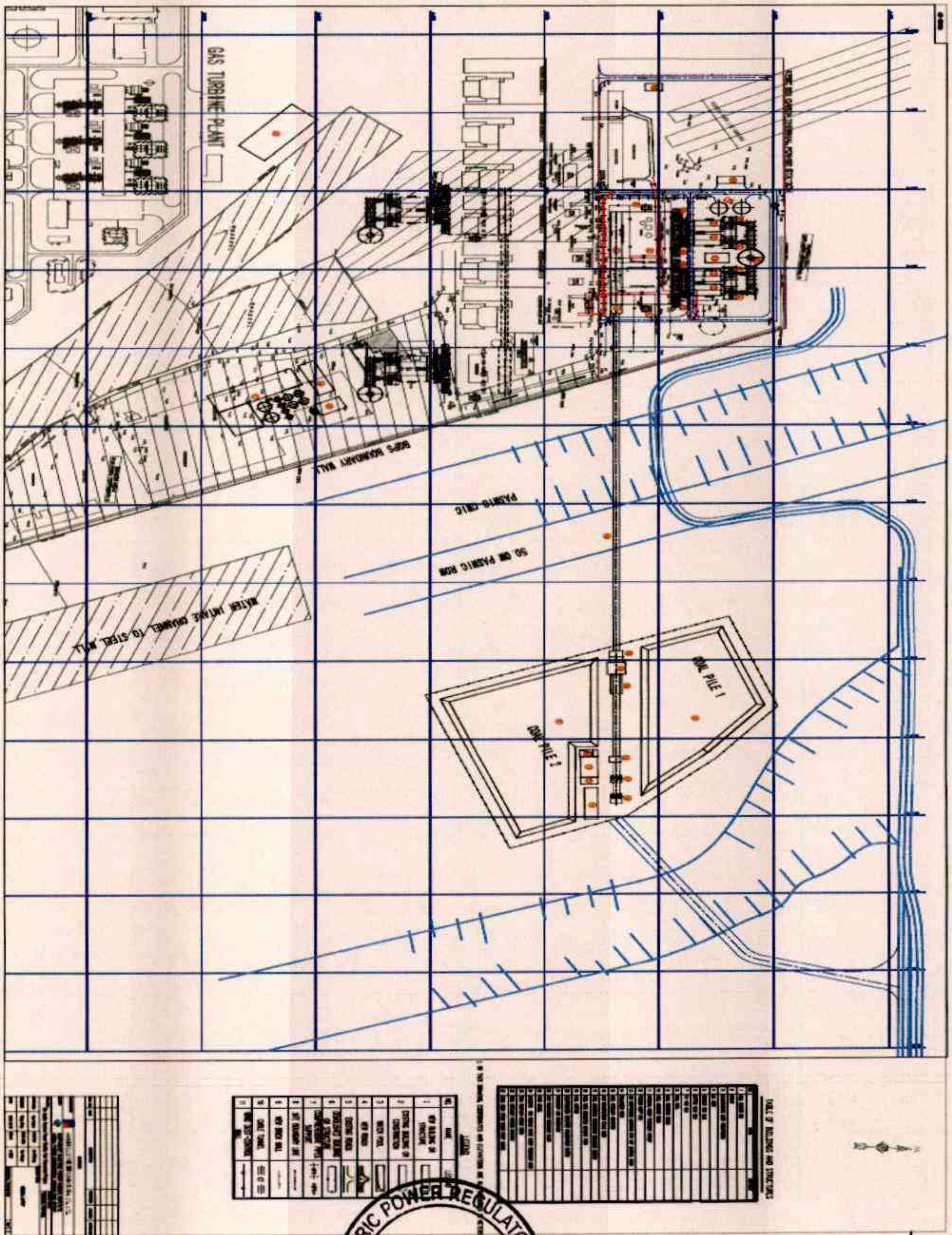
Layout of the Generation Facility



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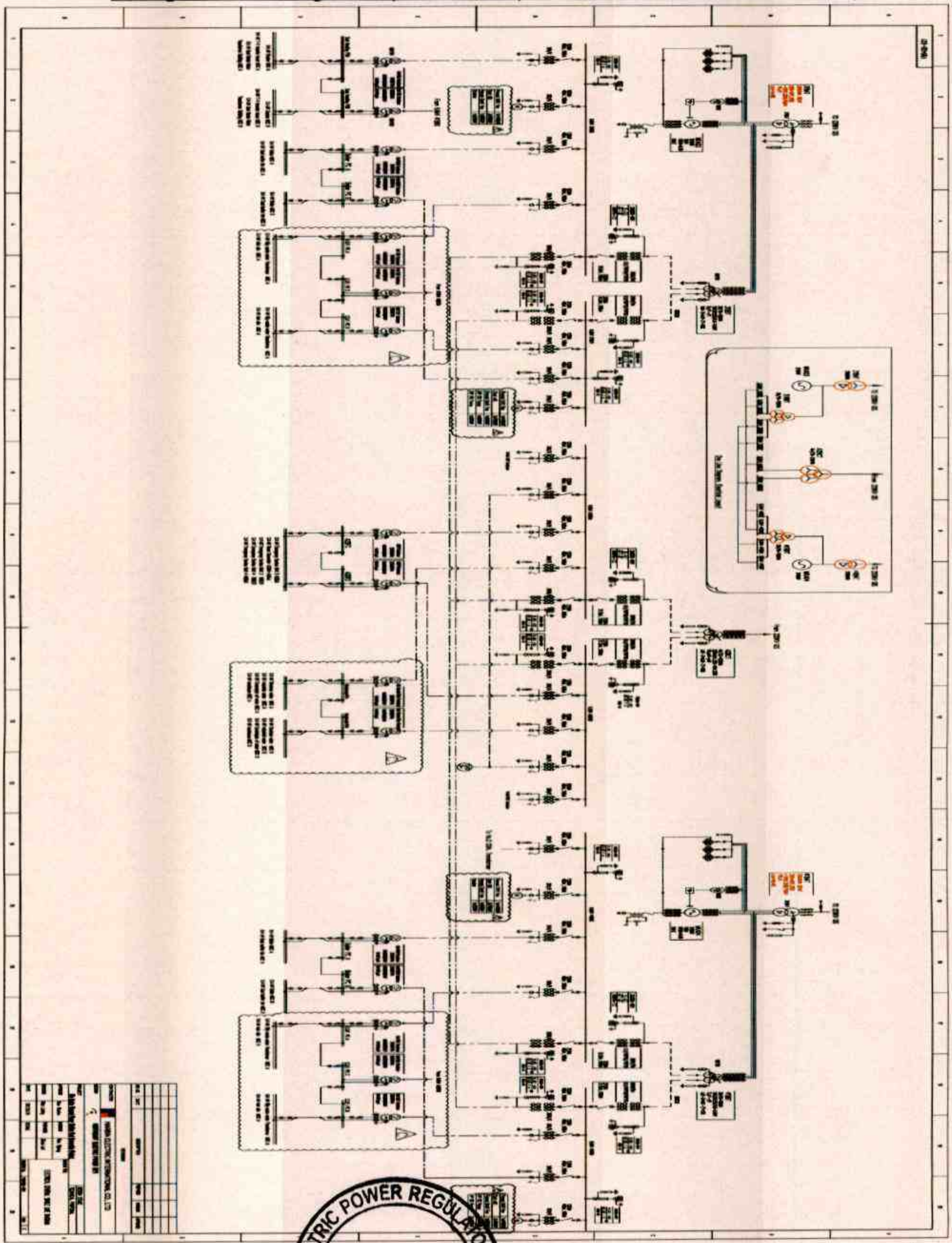
Single line Diagram (Electrical) of the Generation Facility



Interconnection Facilities/ Transmission Arrangements for Dispersal of Power from the Generation Facility

The electric power from the Imported Coal based generation facility/power plant of the Licensee/K-Energy (Pvt.) Limited will be dispersed to the load center of KEL. The interconnection facility is already in service there due to the nature of the project.

(2). The Interconnection Facilities (IF)/Transmission Arrangements (TA) for supplying to National Grid from the above mentioned generation facility shall be at 220 KV level. The dispersal/interconnection arrangement for supplying to network of KEL consists of two (02) 220 KV Double Circuit (D/C) Transmission Line (measuring about 8.67 Kilometer) connecting the generation facility with 220 KV Pipri Grid Station.

(3). Any change in the above mentioned IF/TA for dispersal of electric power as agreed by the Licensee and the Power Purchaser shall be communicated to the Authority in due course of time.

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Detail of Generation Facility/ Power Plant

(A). General Information

(i).	Name of Company/ Licensee	K-Energy (Pvt.) Limited.
(ii).	Registered /Business Office	F-60, Park Lane, Block-5, Kehkashan, Clifton, Karachi, in the Province of Sindh of Pakistan.
(iii).	Plant Location	Bin Qasim Industrial Park, at Port Qasim Karachi, in the Province of Sindh of Pakistan.
(iv).	Type of Generation Facility	Thermal Generation Facility

(B). Plant Configuration

(i).	Plant Size Installed Capacity (Net)	421.90 MW	
(ii).	Type of Technology	Conventional Thermal Power Generation Facility with Sub Critical Boiler and Steam Turbine	
(iii).	Number of Units/Size (Net)	2 x 210.95 MW	
(iv).	Unit Make/Model/Type & Year of Manufacture Etc.	Steam turbine	TCDF 26 D6 Ansaldo Energia (tandem compound condensing type)
		Boiler	Sub-Critical thermal power unit, variable pressure operation, once-through, single intermediate reheating/ Harbin

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(v).	Expected COD of the Generation Facility	January 31, 2018
(vi).	Expected Useful Life of the Generation Facility from COD	30 years

(C). Fuel/Raw Material Details

<table>
<tr><td>(i).</td><td>Primary Fuel</td><td colspan="2">Imported Lignite coal with blending of indigenous Thar Coal</td></tr>
<tr><td>(ii).</td><td>Start-Up Fuel</td><td colspan="2">High Speed Diesel/HSD</td></tr>
<tr><td rowspan="2">(iv).</td><td rowspan="2">Fuel Source for each of the above (i.e. Imported/Indigenous)</td><td>Primary Fuel</td><td>Start-Up Fuel</td></tr>
<tr><td>Imported Lignite Coal from Indonesia with blending of indigenous Thar Coal</td><td>Indigenous/Imported</td></tr>
<tr><td rowspan="2">(v).</td><td rowspan="2">Fuel Supplier for each of the above</td><td>Primary Fuel</td><td>Start-Up Fuel</td></tr>
<tr><td>Apex Dragon Holdings limited</td><td>Shell Pakistan/Pakistan State Oil/Any other OMC Company</td></tr>
<tr><td rowspan="2">(vi).</td><td rowspan="2">Supply Arrangement for each of the above Fuels</td><td>Primary Fuel</td><td>Start-Up Fuel</td></tr>
<tr><td>Through Ships and Jetty etc.</td><td>Through Oil Tankers</td></tr>
<tr><td rowspan="2">(vii).</td><td rowspan="2">No of Storage Bunkers/Tanks/ Open Yard</td><td>Primary Fuel</td><td>Start-Up Fuel</td></tr>
<tr><td>One open yard</td><td>Two oil tanks</td></tr>
</table>

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(viii).	Storage Capacity of each Bunkers/Tanks/ Open Yard	Primary Fuel	Start-Up Fuel
		About 390,000 Tons	500m^3
(ix).	Gross Storage	Primary Fuel	Start-Up Fuel
		About 390,000 Tons	1000m^3

(D). Emission Values

		Primary Fuel	Start-Up Fuel
(i).	SO_x (Tonnes/day)	<500	<500
(ii).	NO_x (ng/J)	<260	<260
(iii).	CO_2 (%)	<15	-

(E). Cooling System

(i).	Cooling Water Source/Cycle	The cooling water is from adjacent sea channel of Port Qasim south of the site. Once through cooling system will be adopted for cooling water system.

(F). Plant Characteristics

(i).	Generation Voltage	18 kV
(ii).	Frequency	50Hz
(iii).	Power Factor	0.8 (lagging) / 0.95(leading)

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(iv).	Automatic Generation Control (AGC) (MW control is the general practice)	AGC Unit is included in the NCS, and AGC Unit can accept command single from despatch. The command signal is converted to analog, and then the analog transmitted to the DCS via hardwire to achieve the AGC function.
(v).	Ramping Rate (MW/min)	(i). 7.1 MW/min from 50% to100%MCR(very hot start) (ii). 7.6 MW/min from 30% to 50%MCR (very hot start) (iii). 7.4 MW/min under 30%MCR (very hot start)
(vi).	Time required to Synchronize to Grid (Hrs.)	(i). 6.8 hours for Cold Start (ii). 5.1 hours for Warm Start (iii). 1 hours for Hot Start

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SCHEDULE-II

The Installed/ISO Capacity (MW), De-Rated Capacity At Mean Site Conditions (MW), Auxiliary Consumption (MW) and the Net Capacity At Mean Site Conditions (MW) of the Generation Facilities of Licensee is given in this Schedule

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SCHEDULE-II

(1).	Total Gross Installed Capacity of the Generation Facility	421.90 MW
(2).	De-rated Capacity of Generation Facility at Reference Site Conditions	421.90 MW
(3).	Auxiliary Consumption of the Generation Facility	049.65 MW
(4).	Total Installed Net Capacity of Generation Facility at Reference Site Condition	372.25 MW

Note

All the above figures are indicative as provided by the Licensee. The Net Capacity available to Power Purchaser for dispatch will be determined through procedure(s) contained in the Power Purchase Agreement or any other applicable document(s).

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