



National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

NEPRA Tower, Attaturk Avenue (East), G-5/1, Islamabad
Ph: +92-51-9206500, Fax: +92-51-2600026
Web: www.nepa.org.pk, E-mail: registrar@nepa.org.pk

No. NEPRA/R/DL/LAG-317/8349-55

June 02, 2016

Mr. Ahad Khan Cheema
Chief Executive Officer,
Quaid-e-Azam Thermal Power (Private) Limited,
3rd Floor, 83A/E-1, Main Boulevard, Gulberg III,
Lahore.

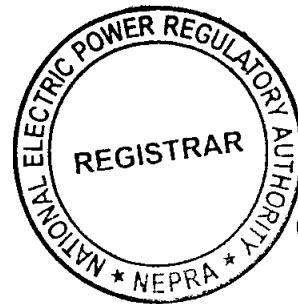
Subject: **Generation Licence No. IGSP/L/67/2016**
Licence Application No. LAG-317
Quaid-e-Azam Thermal Power (Private) Limited (QATPPL)

Reference: *Your application vide letter No. Nil, dated 15th July, 2015, received on 24th July, 2015.*

Enclosed please find herewith Generation Licence No. IGSP/L/67/2016 granted by National Electric Power Regulatory Authority (NEPRA) to Quaid-e-Azam Thermal Power (Private) Limited, pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997). Further, the determination of the Authority in the subject matter is also attached.

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

Enclosure: **Generation Licence (IGSP/L/67/2016)**



[Signature]
02.06.16
(Syed Safer Hussain)

Copy to:

1. Chief Executive Officer, NTDC, 414-WAPDA House, Lahore
2. Chief Operating Officer, CPPA-G, 107-WAPDA House, Lahore
3. Managing Director, Private Power and Infrastructure Board (PPIB), 50-Nazimuddin Road, Sector F-7/4, Islamabad.
4. Director General, Environment Protection Department, Government of Punjab, National Hockey Stadium, Ferozpur Road, Lahore.
5. Chief Executive Officer, Lahore Electric Supply Company Limited, 22-A, Queens Road, Lahore.
6. Secretary, Energy Department, Government of Sindh, Lackson Building 3, 7th Floor, Sarwar Shaheed Road, Opposite Karachi Press Club, Karachi.

National Electric Power Regulatory Authority
(NEPRA)

Determination of the Authority
in the Matter of Application of Quaid-e-Azam Thermal Power
(Private) Limited for the Grant of Generation Licence

May 25, 2016
Case No. LAG-317

(A). Background

(i). The electric power sector of the country is experiencing a demand-supply gap. In order to reduce the said deficit, efforts are being made to develop indigenous resources.

(ii). The provinces are empowered to set up generation facilities of any size, location and fuel of their choice. In view of the said, Government of the Punjab has decided to set up a Re-Gasified Liquefied Natural Gas (RLNG) based generation facility at Bhikki, District Sheikhupura in the province of Punjab.

(iii). In order to implement the project, Government of the Punjab has incorporated a special purpose vehicle (under the provisions of the Companies Ordinance 1984) in the name of Quaid-e-Azam Thermal Power (Private) Limited (QATPPL).

(B). Filing of Application

(i). In accordance with Section-15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the NEPRA Act), QATPPL submitted an application on July 24, 2015 requesting for the grant of generation licence.

(ii). The Registrar examined the submitted application and found the same noncompliant with the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 (the Regulations). In view of the said, the Registrar forwarded the list/detail of the missing information/documents to QATPPL,

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directing for submitting the same. QATPPL completed the submission of the missing information/documentation on August 17, 2015. Accordingly, the Registrar submitted the application for the consideration of the Authority for making a decision regarding the admission of the same or otherwise. The Authority considered the matter in its Regulatory Meeting held on November 03, 2015 and found the form and content of the application in substantial compliance with Regulation-3 of the Regulations. Accordingly, the Authority admitted the application for consideration of the grant of the generation licence as stipulated in Regulation-7 of the Regulations. The Authority approved the advertisement containing (a). the prospectus of the company; and (b). a notice to the general public about the admission of the application of QATPPL, to invite the general public for submitting their comments in the matter as stipulated in Regulation-8 of the Regulations. The Authority also approved the list of the persons for providing their comments or otherwise to assist the Authority in consideration of the above mentioned application of QATPPL. Accordingly, the advertisement was published in one Urdu and one English National newspaper on November 07, 2015.

(iii). Apart from the above, separate letters were also sent to government ministries, their attached departments, representative organizations and individual experts etc. on November 10, 2015. The said stakeholders were directed for submitting their views/comments for the assistance of the Authority.

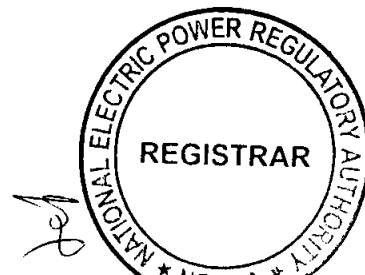
(C). Comments of Stakeholders

(i). In reply to the above, the Authority received comments from five (05) stakeholders. These included Energy Department Government of Sindh, Energy & Power Department Government of Khyber Pakhtunkhwa, Board of Investment, Port Qasim Authority and Ministry of Petroleum & Natural Resources. The salient points of the comments offered by the above stakeholders are summarized in the following paragraphs: -

- (a). Energy Department Government of Sindh submitted that the Govt. of Sindh has serious reservation on the subject project as it is being undertaken without mandatory policy

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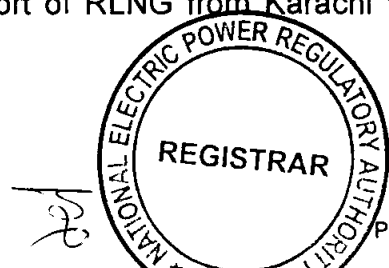
approval of the Council of Common Interest (the CCI). It was stated that natural gas, electricity and all related incidental or ancillary matters appear at entry No. 2, 4 & 18, Part-II, Fourth Schedule of the Constitution respectively. RLNG is also natural gas and according to the Constitution there is no distinction of the same into indigenous or imported. According to the Article-154 of the Constitution, approval of the CCI is mandatory for the formulation and regulation of policies for the transportation, utilization, marketing, allocation and distribution of RLNG. In this regard, the Govt. of Sindh has already moved a summary to the CCI. The Govt. of Sindh reserves the right to approach superior courts if its concerns are not addressed.

(b). Govt. of Sindh contended that currently, there is no dedicated transmission line for RLNG in the country. Instead natural gas from Zamzama, Dadu, Kandanwari and Sawan fields is unconstitutionally and unilaterally being swapped through existing lines and supplied to up country without the consent of Govt. of Sindh. The supply of natural gas from the province of Sindh under the swapping arrangements by gas companies unilaterally, cannot be construed as RLNG supply to the project.

(c). Further, Govt. of Sindh stated that the swapping arrangement has seriously compromised energy security of the province of Sindh as import of RLNG is highly uncertain and unreliable. The sponsors of the project has envisaged completion time of twenty seven (27) months which is too optimistic and ambitious especially in the absence of a dedicated RLNG transmission line from Karachi to the project site. The entire project is based on the presumption of import of RLNG from Karachi through

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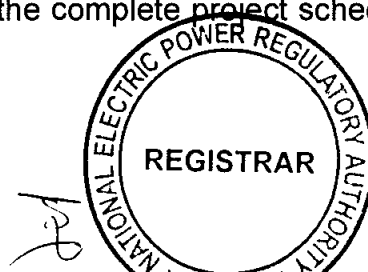
pipelines and it is highly unlikely that a dedicated transmission line is laid during this period. The Company may be directed to provide the basis confirming that 200 MMCFD of RLNG will be sufficient to produce 1500.00 MW of electric power. The Govt. of Sindh has serious reservation on the subject project as it is being undertaken without mandatory policy approval of the CCI;

(d). Energy & Power Department Government of Khyber Pakhtunkhwa commented that it has serious concerns over the approval process, being ultra vires, project fuel requirements/arrangements, technology, financing, implementation schedule, efficiency, plant factors etc. which will have a severe impact on the project output and also on the economy of the Country. As RLNG falls under the Fourth Schedule Part II, it is questionable whether the CCI approved the use of RLNG for such power plant? In case the CCI grants its approval, it is requested that the sponsor may be directed to share the same. Without the approval of the CCI any proceedings shall be ultra vires and against the Constitution.

(e). Govt. of Khyber Pakhtunkhwa contended that the public notice from NEPRA states that the total project cost is U.S. \$ 1,295.80 Million. The said figure contradicts the information contained in the application for generation licence estimating the total project cost to be U.S. \$ 1,073.00 Million. The Company may be advised to provide the basis confirming that 200 MMCFD of RLNG will be enough to produce 1500.00 MW of electric power. Govt. of Khyber Pakhtunkhwa is of the opinion that the time frame of twenty seven (27) month for project completion is unrealistic and is therefore not achievable. The Company is requested to provide the complete project schedule/plan

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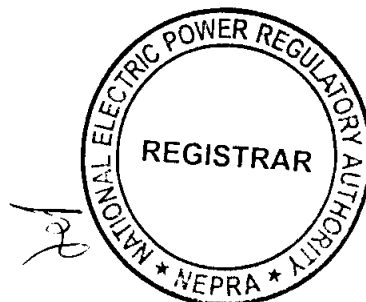


to analyze the implementation plan. The Company may also share the breakup for project cost (U.S. \$ 600-700 Million) and operation cost (of U.S. \$ 27-36.5 Million). The minimum time period for commercial operation date given is thirty (30) months which contradicts with information given at another place. The Company may be asked to clarify the actual commercial operation date as the same will have a direct impact upon the project cost.

- (f). Govt. of Khyber Pakhtunkhwa stated that the minimum net efficiency of the gas turbine at ISO is 58.00% but actually the proposed gas turbines have an efficiency of 62.10% at ISO. The proposed turbines have no proven track record in international market. Pakistan being an economically unstable country, cannot afford to take risk of such situation. It is proposed that turbines that have a proven record of at least 5-7 years must be used to avoid any menace. QATPPL should also provide the efficiency of boilers, steam turbine and heat recovery steam generator along with the plant factor with substantial analysis. The Company may also be directed to provide the complete feasibility study including the technical, economic and environmental aspects of the project in detail and project implementation guidelines. A "Progress Committee" may be constituted which should take all the provinces on board and monitor the progress;
- (g). Board of Investment remarked that energy sector is the priority sector of the Government to cater the short fall in the Country. Smooth and affordable supply of energy is the backbone for industrial growth as well as attracting foreign direct investment in the country. In view thereof, Board of Investment supports the grant of generation licence to QATPPL;

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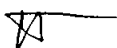


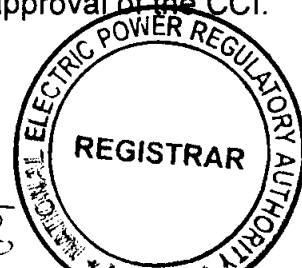
(h). Port Qasim Authority supported the grant of generation licence to QATPPL;

(i). Ministry of Petroleum & Natural Resources submitted that it has allocated 200.00 MMCFD of RLNG on firm take or pay basis for the project of QATPPL subject to (a). the company will be required to provide a firm guarantee acceptable to the RLNG supplier; (b). The project company will execute gas sale and purchase agreement at least a year before the COD of its project on take or pay; (c). any take or pay quantities and obligations related thereto sale purchase agreement of RLNG will be reflected in the gas sale and purchase agreement with the company; and (d). the price of RLNG will be as per approval of the Economic Coordination Committee of the Cabinet (the ECC) for the supply of RLNG to electric power sector.

(ii). The Authority examined above comments of the stakeholders and observed that some of the stakeholders had raised concerns against the grant of generation licence to QATPPL. In view of the said, the Authority considered it appropriate to seek perspective of QATPPL on the observations/objections of the Energy Department Government of Sindh, Energy & Power Department Government of Khyber Pakhtunkhwa and Ministry of Petroleum & Natural Resources.

(iii). In its reply to the observation of Energy Department Government of Sindh, the company/QATPPL confirmed that the CCI is required to formulate and regulate policies in relation to matters in Part-II of Federal Legislative List. However, from the said it cannot be inferred that the current project or such projects based on RLNG will require seeking approval of the CCI first. The project is being implemented under the existing regulatory framework, under the Constitution inter alia comprising of the NEPRA Act, rules and regulations framed thereunder. Therefore, the project does not require approval of the CCI.





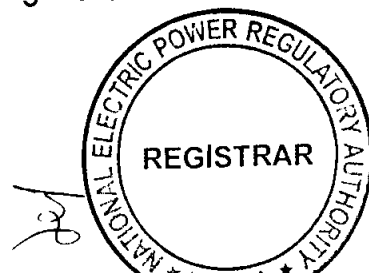
(iv). In this regard, Ministry of Petroleum & Natural Resources has also confirmed that the jurisdiction of the CCI is limited to natural gas production from the well head situated in the territorial jurisdiction of a province. Whereas, RLNG being an imported product is a federal matter and does not fall within the jurisdiction of the CCI. As per entry-27 of Part-I of Federal Legislative List in the Fourth Schedule of the Constitution, the import/export across custom frontiers is the exclusive domain of Federal Government. RLNG is imported from abroad and its utilization and distribution does not come within the purview of Article-158 of the Constitution. Save as aforesaid and even otherwise, the generation license application cannot be objected/rejected on basis of supposedly not seeking approval of the CCI, in absence of any applicable provision of rules and regulations of NEPRA.

(v). Further, QATPPL stated that the project has got firm allocation of imported RLNG supply from Sui Northern Gas Pipelines Limited (SNGPL). The gas supply agreement between the project company and SNGPL has also been finalized. Unlike natural gas for which the province (in which a well-head is located) shall have precedence, there is no such impediment on imported natural gas/RLNG. The allocation of imported gas/ RLNG is merely a commercial decision of the gas supply companies.

(vi). Moreover, QATPPL submitted that the project at Bhikki will run on imported RLNG. The swapping of the gas, if so will be an internal arrangement of the gas supply companies and will be against the equivalent import of RLNG. Therefore, the energy security as apprehended will not be compromised. The said matter is commercial decision of the gas supply companies and does not warrant the alleged apprehension. The existing pipeline from Karachi to project site has spare capacity of 400 MMCFD whereas the maximum gas required for the project is 200 MMCFD. It may also be noted that existing capacity of SNGPL can cater the proposed project easily. Hence, SNGPL made a firm commitment in this regard. However, any addition to the existing network of SNGPL or Sui Southern Gas Company Limited (SSGCL) is for overall gas regime and not attributable to this

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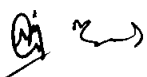
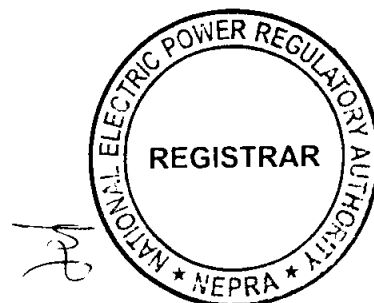
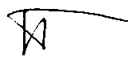
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project. The Company conducted bidding process with estimated capacity of 1500.00 MW. However, subsequently after the bidding process the capacity of the project has now been determined as 1230.90 MW (ISO) and for this capacity the required gas will not be more than 200 MMCFD.

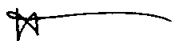
(vii). On the comments of Energy & Power Department Government of Khyber Pakhtunkhwa, QATPPL submitted that the CCI is required to formulate and regulate policies in relation to matters in Part-II of Federal Legislative List. It cannot be inferred that the current project or such projects would require seeking approval of the CCI first. The project is being implemented under the existing regulatory framework under the Constitution, inter alia comprising of the NEPRA Act, rules and regulations framed there-under. Therefore, the project does not require approval of the CCI.

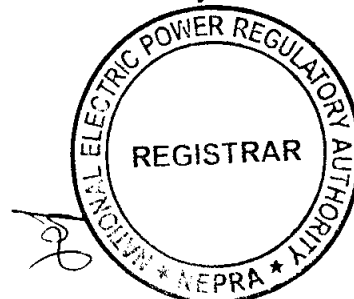
(viii). Further, QATPPL submitted that the amount of U.S. \$ 1,295 Million is as per the upfront tariff estimates of NEPRA. Whereas, the total amount of U.S. \$ 1,073.00 Million is in accordance with the feasibility study carried out by the project company which is much lesser than determination of the Authority for the project cost hence, does not warrant any objection. The Company conducted bidding process with estimated capacity of 1500.00 MW. However, subsequently after the bidding process the capacity of the project has now been determined as 1230.90 MW (ISO) for which 200 MMCFD natural gas will be sufficient. Bids from international companies/international companies with local partners were called through open competitive bidding process, subsequently the EPC contractor was finalized and EPC contract executed. The EPC contractor has guaranteed that the construction of the plant will be completed within the stipulated timeframe and in case of any delay the EPC contractor shall be liable to pay heavy liquidated damages and the Company shall also be entitled to encash the performance guarantee submitted by the contractor. The project costs have been estimated, as per feasibility study, including but not limited to EPC costs, non-EPC costs, taxes & duties, financing fees and charges, gas reserve and interest during construction etc. The guaranteed efficiency at reference site conditions as per the EPC contract is 61.59%.



(ix). In addition, QATPPL stated that the contention that the proposed turbines have no proven track record in international market is not true as the proposed gas turbines of General Electric (9HA.01) have been purchased by large utilities/power generation companies from around the world including but not limited to France, Russia, Argentina and Japan and as many as at least ten firm orders have been placed. As part of verification process, confirmation from customers through relevant Pakistani embassies has been obtained. The gas turbines manufacturers in the world are always under research and development for enhanced performance i.e. power output, and efficiency. It is a continuous improvement process which every world class gas turbine manufacturer has adopted and this process is still ongoing and will continue. Normally, manufacturers design gas turbine and test it in the field for the first time. But in the case of 9HA.01 gas turbine, such test lab investigations have been completed successfully ahead of any commercial application. The H class gas turbine was first manufactured in 2001 and was installed at Baglan Bay, UK. Five other H class (9H 86 7H models) gas turbines were subsequently installed in USA and Japan. It is worthwhile mentioning that gas turbine to be used in the project is accepted by the world's leading insurers including Swiss Re, XL, Munich RE, Talbot etc. However, as further security EPC contractor/OEM has provided extended warranties for a period of four years (as opposed to normal two year warranty period) in respect of the gas turbines. The project company has its board of directors which is monitoring the progress of the project therefore, there is no need of any "Progress Committee".

(x). On the observations of Ministry of Petroleum & Natural Resources, the project company i.e. QATPPL clarified that it will provide the security to RLNG supplier as per the gas supply agreement. It has been agreed in the draft gas supply agreement that company/QATPPL shall provide standby letter of credit as a guarantee for payment. The gas supply agreement has been negotiated and initialed between the QATPPL and SNGPL. The same shall be signed after approval of Oil & Gas Regulatory Authority and Board of Directors of the project company. The terms and conditions of gas supply agreement have been agreed and conditions of sale & purchase agreement of RLNG are duly reflected in it.





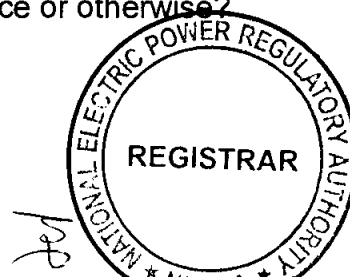
(D). Framing of Issues

(i). The Authority considered the comments of the stakeholders and the replies of QATPPL in its Regulatory Meeting held on January 20, 2016. The Authority decided to deliberate the matter further by holding a public hearing in terms of Rule-3 of the NEPRA Licensing (Generation) Rules, 2000 (the Rules). In this regard, following issues were framed:

- (a). Is the project justified considering the fact that a considerable number of imported and local coal based projects are being set up in the south of the country the generation of which is supposed to be used in the center and north of the country?
- (b). Natural gas, electricity and all related incidental or ancillary matters appear at entry No. 2, 4 & 18, Part-II of the Fourth Schedule of the Constitution. Has mandatory approval of the competent forum i.e. the CCI been obtained for the project or not?
- (c). Currently, there is no dedicated transmission line for RLNG in the country then how the required fuel will be delivered to the project site to operate the proposed generation facility?
- (d). Will there be any swamping of the imported RLNG with indigenous natural gas being extracted from the province of Sindh (including Zamzama, Dadu, Kandanwari and Sawan fields). Has the province of Sindh given its consent to the proposed arrangement or not?
- (e). Are the required arrangements/agreements etc. for the import and continuous supply of the RLNG to the proposed generation facility in place or otherwise?

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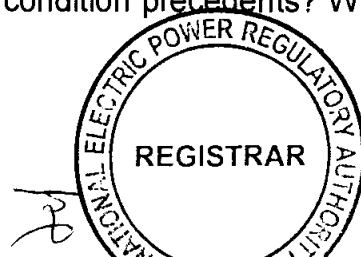
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- (f). Will the project be utilizing existing pipeline for transportation of RLNG to the site of the project or some new infrastructure will be laid? If new infrastructure is to be laid, will the same be in place before the completion time of twenty seven (27) months for commercial operation of the project?
- (g). The project has an allocation of 200 MMCFD of RLNG. Will the said allocation be sufficient to produce the envisaged 1500.00 MW of electric power to be generated from the project or not?
- (h). The project configuration consists of two (02) gas turbines and one (01) steam turbine. How is it concluded to be the best option considering the sizing of the single gas turbine (of 395.64MW)? Whether, other options were considered before finalizing the said configuration?
- (i). What is the worldwide proliferation of the proposed gas turbine to be deployed for the project? Has any SWOT analysis been carried out to mitigate the risk associated with the adopted gas turbines?
- (j). How the bidding process was carried out to select the successful bidder for the project? How many bidders participated in the tendering process and how was the successful bidder selected? Did any participating bidder object to the selection of the successful party and how its objections were resolved?
- (k). The allocation of 200 MMCFD of RLNG is contingent upon the fulfillments of certain condition precedents. What is current status of these condition precedents? Which of the

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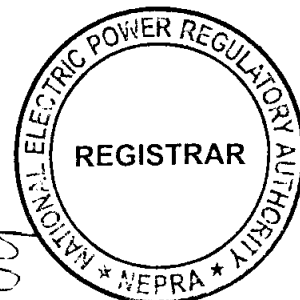


condition precedents have been completed and which are still to be completed? What is the timeline for the completion of the balance condition precedents, if any?

- (l). Has the power purchaser given its consent to purchase electric power from proposed generation facility? What is the status of the power purchase agreement with the power purchaser?
- (m). What is the status of the approval of the interconnection/dispersal study of the project? Will NTDC be able to meet with the timeline of the project to make the interconnection arrangement available in a timely manner or not? Has NTDC arranged funding for the dispersal arrangement or not?
- (n). What are water requirements of the proposed project/generation facility and how the same will be met with? Has the necessary approval of the Irrigation Department Punjab been obtained in case the water from the canal is to be used?

(ii). In order to encourage the participation of the general public, interested/affected parties and other stakeholders, notices were published in two (02) different newspapers including the Dawn (English) and daily Jang (Urdu) on January 22, 2016.

(iii). Apart from the above, separate letters were also sent to relevant ministries of GoP, their attached departments, representative organizations and individual experts etc. informing them about the date, time and venue of the proposed public hearing.



(E). Public Hearing

(i). The public hearing was held on February 09, 2016. In the said hearing, various stakeholders participated which included Central Power Purchasing Agency (Guarantee) Limited (CPPA-G), Planning Commission, Private Power Infrastructure Board (PPIB), Govt. of Sindh and Lahore Electric Supply Company Limited.

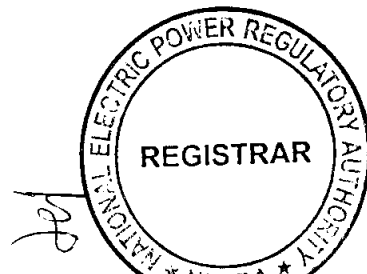
(ii). The representatives of QATPPL gave a detailed presentation on the salient features of the generation facility. It was stated that Government of the Punjab has resolved to establish the RLNG based generation facility at Bhikki, District Sheikhupura to overcome the acute energy shortage prevalent in the country. The representative of QATPPL submitted a detailed reply to the aforementioned "Issues of Hearing" and elaborated its point of view on the same.

(iii). About the justification of the Project, it was submitted that PPIB and Ministry of Water and Power are required to ascertain the energy requirements of the country. In view of the other projects being setup in the country, PPIB vide its letter dated July 13, 2015 issued Letter of Intent (LoI) in favor of QATPPL for setting up the Project. QATPPL has also obtained power acquisition request from the power purchaser. Further, NTDC has confirmed the evacuation of electric power from the Project. QATPPL is concerned with the LoI and consent of the power purchaser and both conditions have been fulfilled. Further, QATPPL submitted that taking into consideration the high efficiency, environmentally friendly, less completion time and lower CAPEX, the project stands fully justified for grant of generation licence.

(iv). Regarding the mandatory approval of the CCI for the Project, it was submitted that the same is not required. It was stated that as per Article-154 of the Constitution, the CCI is required to "formulate and regulate policies in relation to matters in Part-II of Federal Legislative List". The CCI approved the Power Generation Policy, 2015 and the project is being proceeded and regulated under the existing applicable legal/regulatory framework. In this regard, the representative of QATPPL submitted that Ministry of Petroleum & Natural

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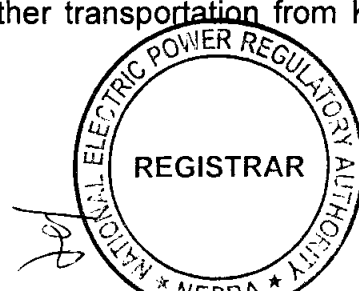
Resources on the summary of the Govt. of Sindh for the CCI clarified that the jurisdiction of the CCI is limited to the natural gas produced from the wellhead situated in the territorial jurisdiction of provinces while RLNG being an imported product does not fall within the jurisdiction of the CCI. Further, Ministry of Law, Justice and Human Rights has also taken the position that mineral, oil and natural gas is placed at Sr. No. 2 of Part-II of the Fourth Schedule to the Constitution and this item read with Article-154 of the Constitution falls within the domain of the CCI. However, this does not mean that the CCI shall have a role in the imported RLNG. Since RLNG is imported from abroad therefore, its distribution and utilization shall not be affected by the said Article. The issue of approval of the CCI for the project or application is not supported and is beyond the scope of relevant provisions enshrined in the NEPRA Act, relevant rules and regulation framed there under. QATPPL submitted that the adjudication of its application for the grant of generation licence on basis of approval/non-approval of the CCI would be ultra vires and coram non judice, specifically in presence of position communicated by Ministry of Law, Justice and Human Rights.

(v). About the non-availability of dedicated transmission line for RLNG in the country, it was submitted that project does not require any dedicated transmission line. Only an eighteen (18) km spur pipeline (30 inch diameter) will be laid by SNGPL from Qilla Sattar Shah to the project site which is expected to be complete by September 2016. The existing gas transmission network of SNGPL has additional capacity of 400 MMCFD whereas the maximum gas requirement of project is 200 MMCFD. QATPPL has finalized commercial arrangement with the gas supply company which shall be responsible for ensuring the availability of gas.

(vi). Regarding swapping of the imported RLNG with indigenous natural gas, it was clarified that the project will run on imported RLNG. The swapping, if any, will be against equivalent import of RLNG and no impediment on natural gas of the province of Sindh will be incurred. It was confirmed that necessary arrangement have been finalized between the GoP and Government of Qatar for import of LNG. The LNG will be imported by PSO under the sale & purchase agreement with Qatargas operating company limited. PSO will deliver the LNG at Port Qasim terminal for re-gasification and further transportation from Karachi to

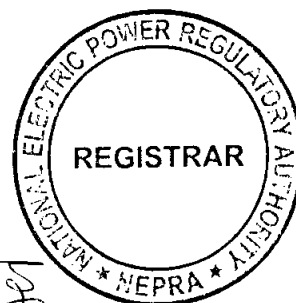
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Bhikki plant site through SSGCL and SNGPL networks. QATPPL will have a gas supply agreement with SNGPL under which gas will continue to be supplied to project to ensure its base-load operations. It was confirmed that the project shall utilize the existing pipeline, which has spare capacity and can easily meet with the maximum requirement of 200 MMCFD. An 18 km, 30 inch diameter spur pipeline will be laid by SNGPL from Qilla Sattar Shah to the plant site. SNGPL has already started the procurement process in relation to the said spur pipeline in December 2015 and shall complete the execution thereof by September 2016. The representative of QATPPL reiterated that 200 MMCFD will be sufficient to run the plant round the clock at full load capacity.

(vii). About selection of the project configuration, it was clarified that the international competitive bidding was done for setting up 1000-1500 MW project. The Request for Proposal allowed different configurations and all the bidders offered different make of machines. However, due to premium on efficiency all bidders offered the same configuration i.e. two gas turbines and one steam turbine. Based on highest efficiency the General Electric Model 9HA.01 has been selected for the project. The proposed gas turbine is one of the latest machine and has been purchased by large utilities/power generation companies from around the world including but not limited to France, Russia, Argentina and Japan and as many as ten confirmed orders have been placed. General Electric is well renowned manufacturer in the world in the production of gas turbines. Normally manufacturers design gas turbine and test it in the field for the first time, but in case of 9HA.01 gas turbine the investigations have been completed successfully ahead of any commercial operation. Additional warranties have been obtained by the Company. Inputs from experienced and expert consultants have been sought with regard to all aspects of the gas turbines. On the selection of gas turbine and other related equipment, it was clarified that a prequalification of international companies was carried out in compliance with the applicable Punjab Procurement Rules 2014.



(viii). Regarding the fulfillments of certain condition precedents, the representative of QATPPL informed that the company will provide security to RLNG supplier as per the gas supply agreement. It has been agreed in the draft gas supply agreement that the company/QATPPL shall provide standby letter of credit as a guarantee for payment. The gas supply agreement has been negotiated and initialed between QATPPL and SNGPL. The same shall be signed after pending approval of OGRA and Board of Directors of QATPPL. The terms and conditions of gas supply agreement have been agreed and conditions of sale & purchase agreement of RLNG are duly reflected in it.

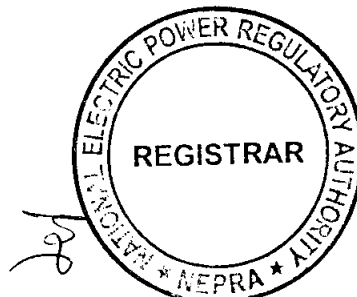
(ix). It was clarified that the power purchaser has confirmed power evacuation from project. In this regard, final draft of power purchase agreement has been agreed between the parties and is submitted before ECC for its approval. The sponsors of the project confirmed that interconnection study has been carried out by NTDC in March 2015 and as communicated, NTDC will build the required infrastructure for power evacuation through the 500KV grid station for which the PC-I has already been approved.

(x). Regarding the water requirements, it was clarified that the proposed project has 642 Cusec water requirement on gas fuel, which will be met from nearby Qadirabad-Balloki Link Canal. The project will run mostly on once through cooling water system i.e. nearly all water extracted from the canal will be returned to the canal thereby minimizing the actual water usage/loss to a negligible quantity. It was explained that necessary approval for use of water from the said canal is in advance stage at irrigation department, Punjab and is expected to be approved soon.

(xi). As explained at Para E(i) above a number of stakeholders participated in the course of the hearing. The Authority offered an opportunity to these stakeholders to express their views. Mr. Tariq Ali Shah (Director Oil and Gas), Energy Department Govt. of Sindh reiterated the previous position of Govt. of Sindh as explained in detail at Para C(i)(a) above, however, he also made

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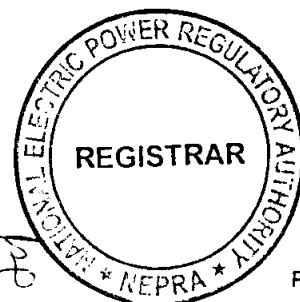
QATPPL



additional submissions stating that the Power Policy, 2015 has not yet been duly approved by the CCI.

(xii). Representative of Energy Department Govt. of Sindh stated that the Authority has to make a difficult decision for awarding a generation licence to a wholly owned provincial company for a power generation plant whose basic premise is availability of supposedly cheap RLNG from a utility company which itself depends on the supply of the same from another utility company which is also dependent on the provision of the same commodity from another company. There are two to three more inland and offshore companies in the supply chain. During last public hearing held on December 28, 2015 for determination of sale price of RLNG even OGRA cited non provision of duly signed gas sale and purchase agreements as one of the reason of announcement of provisional determination of sale price of RLNG. After the lapse of five (05) months it is now presumed that the concerned parties should have finalized their mutual tripartite agreements and it is requested that the Authority may upload the same on its website, if it has the copy.

(xiii). Representative of Energy Department Govt. of Sindh submitted that the assertion of Federal Government that RLNG as merely being an "import item" under Entry No. 27, Part-I may lead to serious legal and constitutional complications. Even if for the sake of arguments, one accepts the stance of the Federal Government and accept RLNG as merely an "import item" under Entry No 27, Part-I then subsequent operation of co-mingling of RLNG with locally produced gas at SSGCL terminal Karachi and its onward sale to consumers in Sindh and swapping of indigenous natural gas produced from wells located in Khairpur, Dadu and Dera Bugti is unconstitutional, illegal and breach of trust. SSGCL has so far not even finalized the exact route or alignment of the pipeline from Karachi-Hyderabad-Nawab Shah-Nara, Khairpur segments. Even, for laying pipeline in existing Right of Way, SSGCL has to renegotiate additional land along 360 Km long stretch. Lastly, the Govt. of Sindh requested the Authority to defer the grant of generation licence to QATPPL till RLNG and related incidental and ancillary matters are deliberated and decided by the CCI.



(F). Analysis of the Authority

(i). The key features of the application under consideration are that QATPPL is setting up a combined cycle power plant located at 2-kilometers off of Sheikhpura–Faisalabad Road on Qadirabad-Balloki Link Canal (Left Bank) at Bhikki, District Sheikhpura, in the province of Punjab. In this regard, QATPPL has approached the Authority for the grant of generation Licence for its said generation facility.

(ii). The Authority has considered the submissions of QATPPL, the comments of stakeholders, discussion on Issues framed for public hearing, rejoinders of QATPPL on the comments of various stakeholders. Govt. of Sindh and Government of Khyber Pakhtunkhwa have certain objections, particularly, approval of the CCI and swapping of natural gas through existing lines. With respect to approval of the CCI both the Governments have contend that as per Article-154 of the Constitution, the CCI is mandated to formulate and regulate policies in relation to matters in Part-II of Federal Legislative List. Since electricity and gas both fall within Part-II of Federal Legislative List, therefore, approval of the CCI is required for Power Generation Policy, 2015 and that only the CCI can make policy on matters relating to RLNG.

(iii). As far as the Power Generation Policy 2015 is concerned the Authority observes that the Power Generation Policy, 2015 has been notified vide SRO 275(I)/2015 dated 03 April 2015. The said policy states that "in pursuant to the decision of Council of Common Interests held on 18th March 2015, the Council has been pleased to approve the Power Generation Policy, 2015 which was subsequently finalized in consultation with all provincial representatives during the meeting of the Inter Provincial Coordination Committee on 31-03-2015 to be published in the official Gazette of Pakistan." Hence, objection regarding approval of the CCI for the Power Policy stands addressed.

(iv). With regard to jurisdiction of the CCI on matters dealing with RLNG, attention of Authority has been drawn to various provisions of the Constitution and opinion given by Ministry of Petroleum & Natural Resources and Ministry of Law,

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Justice and Human Rights. The Ministry of Petroleum & Natural Resources has stated in its letter dated March 06, 2015 that

The jurisdiction of the CCI is limited to the natural gas produced from the well head situated in the territorial jurisdiction of provinces while RLNG being an imported product does not falls within the jurisdiction of the CCI.

Similarly, Ministry of Law, Justice and Human Rights in its letter dated May 12, 2015 has stated that

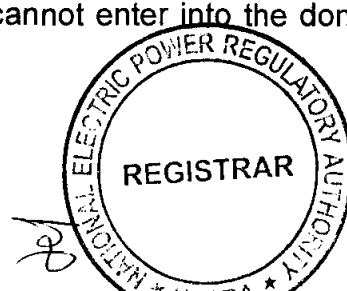
Mineral oil and natural gas is placed at Sr. No. 2 of Part-II of the Fourth Schedule of the Constitution and this item read with Article-154 of the Constitution falls within the domain of the CCI..... However, this does not mean that the CCI shall have role in the imported Regassified Liquefied Natural Gas (RLNG).....since the RLNG is imported from abroad its distribution and utilization shall not be affected by the said Article.

(v). The Authority has considered the submissions made by the parties with respect to jurisdiction of the CCI and is constrained to give its finding within the legal framework provided under the NEPRA Act. Whether the matters relating to imported RLNG fall under Part-II of Fourth Schedule of the Constitution and approval of the CCI is required with respect to RLNG as contended by Govt. of Sindh and Govt. of Khyber Pakhtunkhwa or whether RLNG is an imported item and comes under the exclusive domain of the Federal Government in terms of Part-I of Fourth Schedule of the Constitution as contended by the QATPPL; these are purely questions of interpretation of the Constitution. The Authority cannot adjudicate on such matters which fall beyond its mandate and therefore, issue raised before the Authority regarding jurisdiction of the CCI is *ultra vires* of the NEPRA Act and hence is *coram non judice*.

(vi). Further, the Authority is of the opinion that other objections raised by the parties such as swapping of imported RLNG with indigenous natural gas are not relevant for any specific power project and need to be raised before the relevant government agencies. The Authority cannot enter into the domain of any

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other regulatory body and is confined to decide a generation license strictly in accordance with NEPRA Act, rules and regulations. Therefore, to resolve the constitutional and other regulatory issues involved in the matter, Govt. of Sindh and Govt. of Khyber Pakhtunkhwa may approach the relevant competent forums to address their issues.

(vii). The Authority reiterates that it has been given a mandate to issue a generation license to a project that fulfils the specific requirements as highlighted in the provisions of the NEPRA Act and relevant rules and regulations. For that purpose, we would like to refer to the relevant provisions of NEPRA laws. Section-15 of the NEPRA Act states that

Generation licence- (1) No person shall, except under the authority of a licence issued by the Authority under this Act and subject to the conditions specified in this Act and as may be imposed by the Authority, construct, own or operate a generation facility. (2) An application for the grant of a licence for generation facility shall specify- (i) the type of facility for which the licence is applied; (ii) the location of the generation facility; and (iii) the expected life of the generation facility.

Further, Rule-3 of the NEPRA Licensing (Generation) Rules, 2000 states that

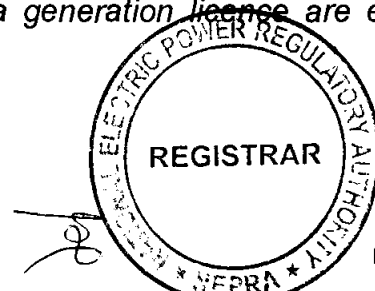
...Grant of Licence- (1) subject to these rules and other NEPRA rules and regulations, the Authority may grant a generation licence to any person to engage in the generation business.

(2) the location, size, technology, interconnection arrangements, technical limits, technical functions and other details specific to the generation facilities of the licensee shall be set out in the schedule to the generation license.

(3).....

(4).....

(5) The Authority may refuse to issue a licence where the site, technology, design, fuel, tariff or other relevant matters pertaining to the generation facility proposed in an application for a generation licence are either not



suitable on environmental grounds or do not satisfy the least cost option criteria.....

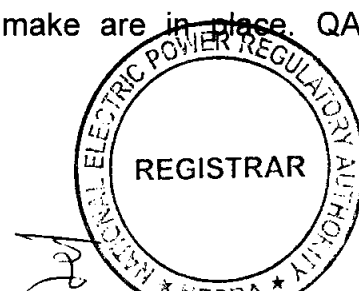
(viii). In this regard, the Authority has considered the legal, factual and contractual position pertaining to different aspects of the project within the scope of relevant provisions enshrined in the NEPRA Act, the Rules and Regulations which will be discussed in detail in succeeding paragraphs.

(ix). The Authority observes that the Ministry of Petroleum and Natural Resources has issued a letter of comfort dated September 20, 2015 to QATPPL in respect of firm allocation of 200 MMCFD RLNG for its Bhikki power project. The said letter states that *"Ministry of Petroleum and Natural Resources assures QATPPL that all requisite arrangement for import, regasification, transport and delivery of upto 200 MMCFD of RLNG shall be in place on or before 1st January 2017 for its Bhikki Power Plant."* Further, QATPPL has provided a copy of the gas supply agreement with SNGPL under which gas will be supplied to Bhikki power plant on continuous basis to ensure its base load operation.

(x). The proposed combined cycle power plant will be consisting of 2x416.00 MW gas turbines, 2 heat recovery steam generators and 1x398.90 MW steam turbine. The gas turbines will be primarily fueled by RLNG having high speed diesel as back up fuel. QATPPL submitted that configuration has been finalized after duly considering different options offered by various bidders. The sponsors have selected the proposed technology based on the highest efficiency with the proposed configuration (i.e. two gas turbines and one steam turbine). Further, QATPPL has confirmed that the gross efficiency of the proposed generation facility will be 62.84% whereas net efficiency of the same will be 61.59% and will provide an economically feasible solution to relieve power shortages in the country.

(xi). For proposed gas turbines (9HA.01) QATPPL submitted that these have been procured from General Electric, and the same have reasonable population worldwide including countries France, Russia, Argentina and Japan. Further, considerable orders of the similar make are in place. QATPPL has

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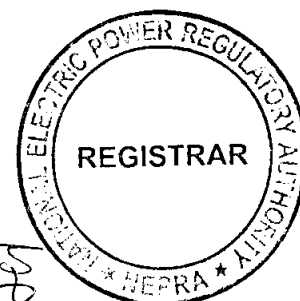


confirmed that additional warranties have been obtained from the General Electric to safeguard against any risk associated with the new gas turbines. Further, on the selection of gas turbine and other related equipment, it was clarified that a prequalification of international companies was carried out in compliance with the applicable Punjab Procurement Rules 2014.

(xii). The Authority observes that NTDC has carried out the required studies pertaining to the dispersal of electric power from the project. It has been confirmed that the electric power from the power plant of QATPPL will be evacuated through 500 KV transmission line(s). Further, QATPPL has received the confirmation from CPPA-G for purchase of power from the project of QATPPL. In this regard, CPPA-G has provided a comprehensive justification in procuring electric power from RLNG projects duly considering portfolio of future projects.

(xiii). The Authority has considered the submissions of the QATPPL and NTDC confirming that the required interconnection/dispersal arrangement will be in place before the commercial operation date of the project. Moreover, PC-I for the dispersal work has already been approved paving the way for the completion of the work for the dispersal of the power from the project. The company has confirmed that the water requirements of the project (to the tune of 642 Cusecs) will be met from Qadirabad-Balloki Link Canal. It has also been confirmed that the project will be operating on once through cooling water system, whereby almost all the water drawn from the above mentioned canal will be discharged back to the canal thereby, minimizing the actual water usage/loss.

(xiv). In view of the clarification and justifications given above, the Authority is of the considered view that issues arising out of the comments of the stakeholders on the application of QATPPL have been addressed and that QATPPL fulfills the eligibility criteria for grant of generation licence as given under the NEPRA Act, rules and regulations for grant of generation licence, Therefore QATPPL qualifies for grant of generation licence.



(G). Grant of Generation Licence

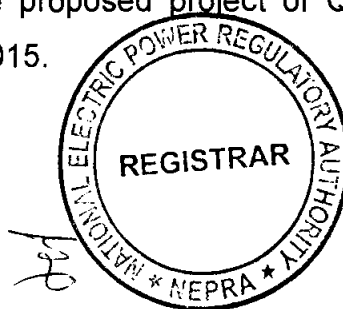
(i). Electricity is a fundamental element for the economic growth of any country. The electricity consumption per capita has a strong correlation to the social development indices (human development index, life expectancy at birth, infant mortality rate, and maternal mortality) and economic indices (such as GDP per capita etc.).

(ii). Increasing electricity consumption per capita can directly stimulate faster economic growth and indirectly achieve enhanced social development. In short, the economic growth of any country is directly linked with the availability of safe, secure, reliable and cheaper supply of electricity. In view of the said, the Authority is of the considered opinion that for sustainable development, all types of electric power generation resources including natural gas (imported/local), coal (imported/indigenous), hydel, wind, solar and other renewable energy resources must be tapped and developed on priority basis both in public and private sectors.

(iii). The existing energy mix of the country is heavily skewed towards the thermal power plants, operating on furnace oil which is not only relatively costlier but is also a concern for the environment. The import of relatively expensive furnace oil results in depletion of the precious foreign exchange reserves of the country and increase in the consumer end tariff. The Authority considers it imperative that efforts must be made to change the energy mix towards cheaper and environmental friendly fuels. With the depleting natural gas reserves in the country and relatively longer lead time for the construction of hydro electric power projects, the projects using coal and RLNG are considered to be the best option in the short and medium term planning. Therefore, to reduce the demand-supply gap and to achieve sustainable development, it is vital that indigenous as well as imported/local coal and RLNG projects are given priority for power generation and their development is encouraged. In view of the said, the CCI approved the Power Policy 2015 which envisages rationalizing the energy mix and reducing the demand-supply gap through different fuels. In consideration of the said, the Authority is of the view that the proposed project of QATPPL is consistent with the provisions of Power Policy 2015.

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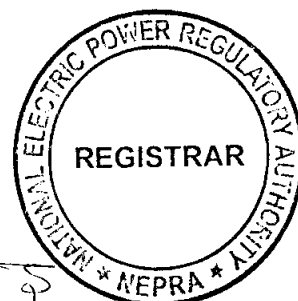
QJ 23



(iv). The Authority is of the opinion that the proposed project is based on imported RLNG which is considered as a clean fuel. In this regard, QATPPL has confirmed that its proposed project will comply with the environmental standards. Further, QATPPL has provided a copy of the necessary NOC issued by Environmental Protection Department, Govt. of the Punjab. Apart from the above, the Authority directs QATPPL to ensure that the project will comply with the environmental standards during the term of the generation licence. In view of the said, the Authority has included a separate article along with other terms and conditions that the licensee will comply with relevant environmental standards. Further, the Authority also directs QATPPL to submit a report on a bi-annual basis, confirming that operation of its project is compliant with required environmental standards as prescribed by the concerned environmental protection agency.

(v). The term of a generation licence under the Rule-5 (1) of the Rules, is to commensurate with the maximum expected useful life of the units comprised in a generating facility. According to the international benchmarks available, the useful life of a combined cycle power plant is normally taken at least thirty (30) years from its COD. Further, QATPPL has also confirmed that its power purchase agreement has a term of thirty (30) years. In view of the said, the Authority hereby sets the term of the generation licence of QATPPL for thirty (30) years from COD of the project.

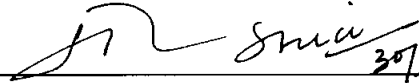
(vi). Regarding tariff that QATPPL will charge from its power purchaser, it is clarified that the Authority through its determination No. NEPRA/TRF-347/QATPL-2016/5034-5037, dated April 14, 2016 has granted QATPPL a cost plus tariff for its project. The Authority directs QATPPL to follow the terms and conditions of the approved tariff in letter and spirit and charge the power purchaser only such tariff which has been determined, approved or specified by the Authority.



(vii). In view of the above, the Authority hereby decides to approve the grant of generation licence to QATPPL on the terms and conditions 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 the other applicable documents.

Authority

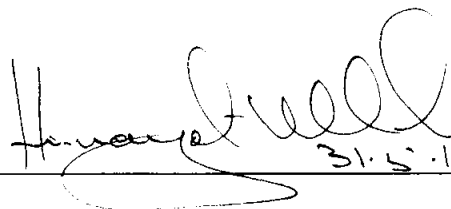
Maj. (R) Haroon Rashid
(Member)


30/5/16

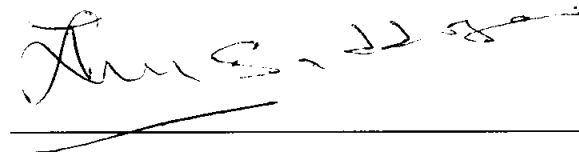
Syed Masood-ul-Hassan Naqvi
(Member)

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Himayat Ullah Khan
(Member)/(Vice Chairman)

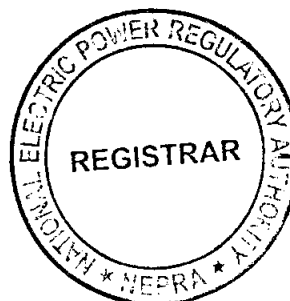

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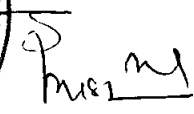
Brig. (R) Tariq Saddozai
(Chairman)



✱ Comments/Reservations Pertaining to Issuance of "Licence", is Cited
in RM 16-309 dt 10.5.2016


30/5/16
MEMBER




02.06.16

**National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan**

GENERATION LICENCE

No. IGSPL/67/2016

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:

QUAID-E-AZAM THERMAL POWER (PRIVATE) LIMITED

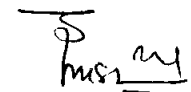
Incorporated Under Section 32
of the Companies Ordinance, 1984 (XL VII of 1984) Having Corporate Universal
Identification No. 0092611, Dated March 25, 2015

**for its Re-Gasified Liquefied Natural Gas Based Thermal Generation
Facility/Combined Cycle Power Plant Located at Bhikki, District Sheikhupura
in the Province of Punjab**

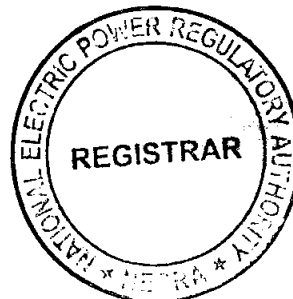
(Installed Capacity: 1230.90 MW Gross ISO)

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

Given under my hand this 02nd ^{June} day of ~~May~~ Two Thousand &
Sixteen and expires on 30th day of December Two Thousand
& Forty Seven.



Registrar 02.06.16



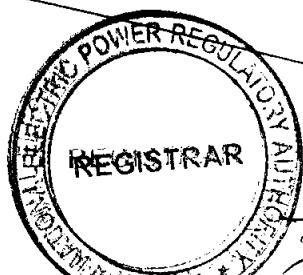




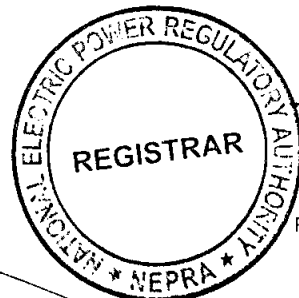
Article-1
Definitions

1.1 In this Licence

- (a). "Act" means "the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997";
- (b). "Applicable Documents" have the same meaning as defined in the Rules;
- (c). "Authority" means "the National Electric Power Regulatory Authority constituted under Section-3 of the Act";
- (d). "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;
- (e). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility of the Licensee is commissioned;
- (f). "CPPA-G" means "Central Power Purchasing Agency (Guarantee) Limited" or any other entity created for the like purpose;
- (g). "Distribution Code" means the distribution code prepared by distribution company and approved by the Authority, as it may be revised from time to time with necessary approval of the Authority;
- (h). "Grid Code" means the grid code prepared by NTDC and approved by the Authority, as it may be revised from time to time by NTDC with necessary approval of the Authority;



- (i). "IEC" means International Electrotechnical Commission or any other entity created for the like purpose and its successors or permitted assigns;
- (j). "IEEE" means the Institute of Electrical and Electronics Engineers and its successors or permitted assigns;
- (k). "Law" means the Act, relevant rules and regulations made there under and all the Applicable Documents;
- (l). "Licensee" means "**Quaid-e-Azam Thermal Power (Private) Limited (QATPPL)**" and its successors or permitted assigns;
- (m). "NTDC" means National Transmission and Despatch Company Limited and its successors or permitted assigns;
- (n). "Power Purchase Agreement" means the power purchase agreement, entered or to be entered into by and between the 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;
- (o). "Power Purchaser" means the CPPA-G purchasing electric power on behalf of XW-DISCOs from the Licensee, pursuant to Power Purchase Agreement for procurement of electricity;
- (p). "Regulations" mean "the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999" as amended or replaced from time to time;
- (q). "Rules" mean "the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000";



(r). "XW DISCO" means "an Ex-WAPDA distribution company engaged in the distribution of electric power".

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

Article-2
Applicability of Law

This Licence is issued subject to the provisions of the Law, 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 of this Licence.

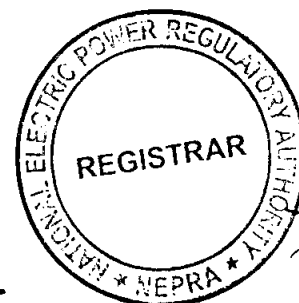
3.2 The net capacity of the generation facility of the Licensee is set out in Schedule-II hereto.

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.

Article-4
Term of Licence

4.1 The Licence is granted for a term of thirty (30) years from the COD of the generation facility.

4.2 Unless suspended or revoked earlier, the Licensee may apply for renewal of the Licence within ninety (90) days prior to the expiry of the term of the Licence, as stipulated in the Regulations.



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.

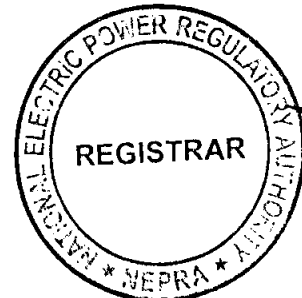
Article-7
Competitive Trading Arrangement

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 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.

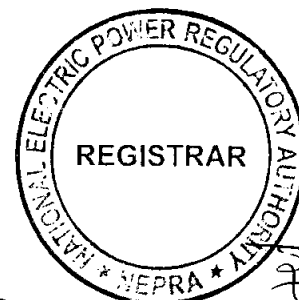
Article-11
Power off take Point and Voltage

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.

Article-12
Provision of Information

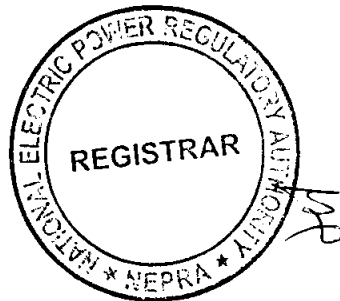
12.1 The obligation of the Licensee to provide information to the Authority shall be in accordance with Section-44 of the Act.

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.



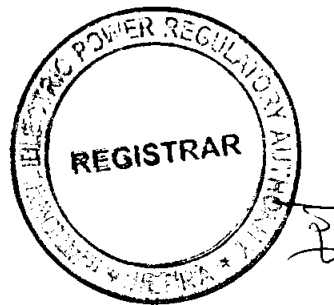
Article-13
Design & Manufacturing Standards

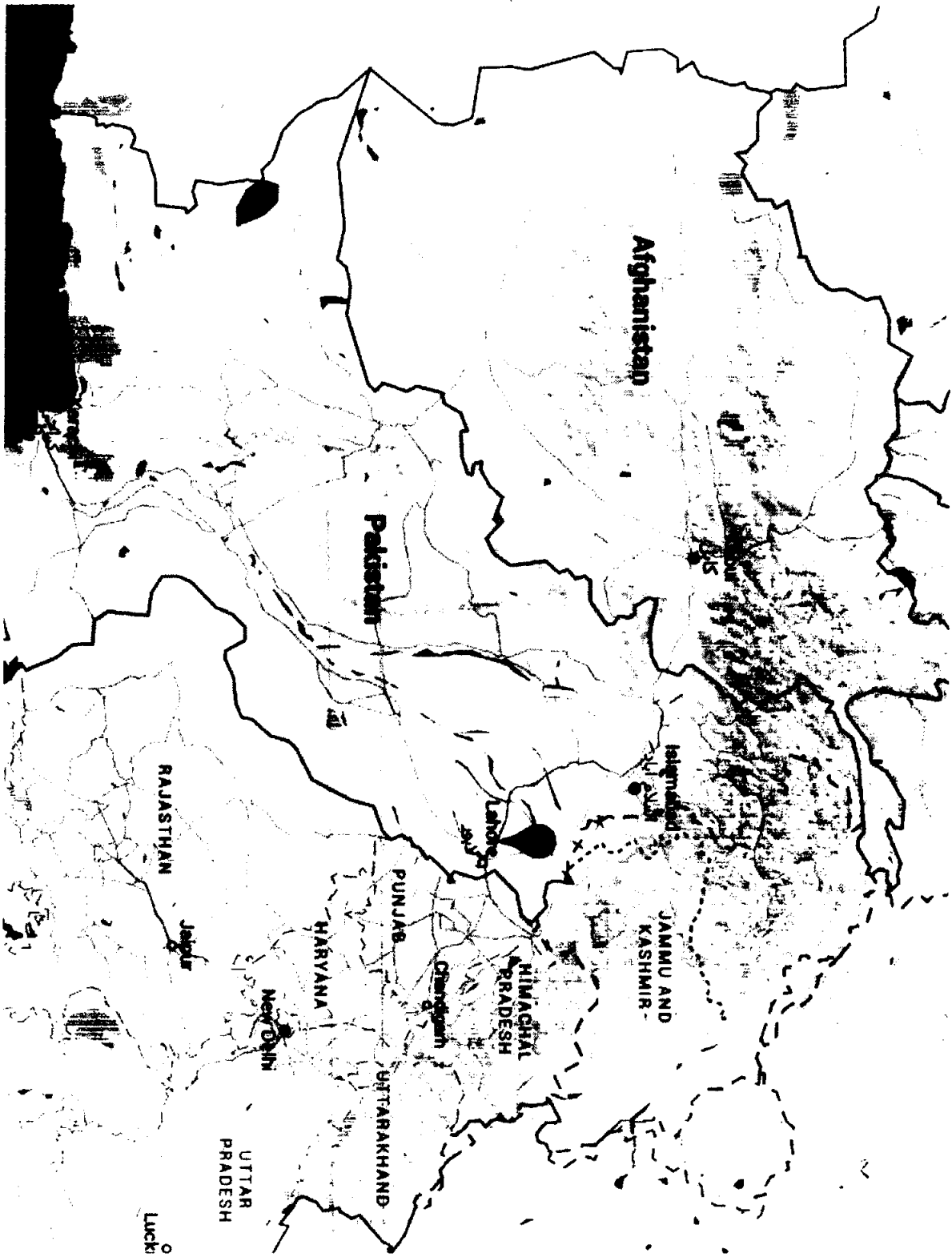
All the components of the generation facility shall be designed, manufactured and tested according to the latest IEC, IEEE or any other equivalent standards. All plant and equipment shall be unused and brand new.

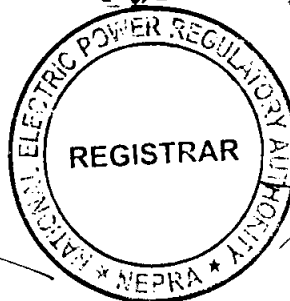
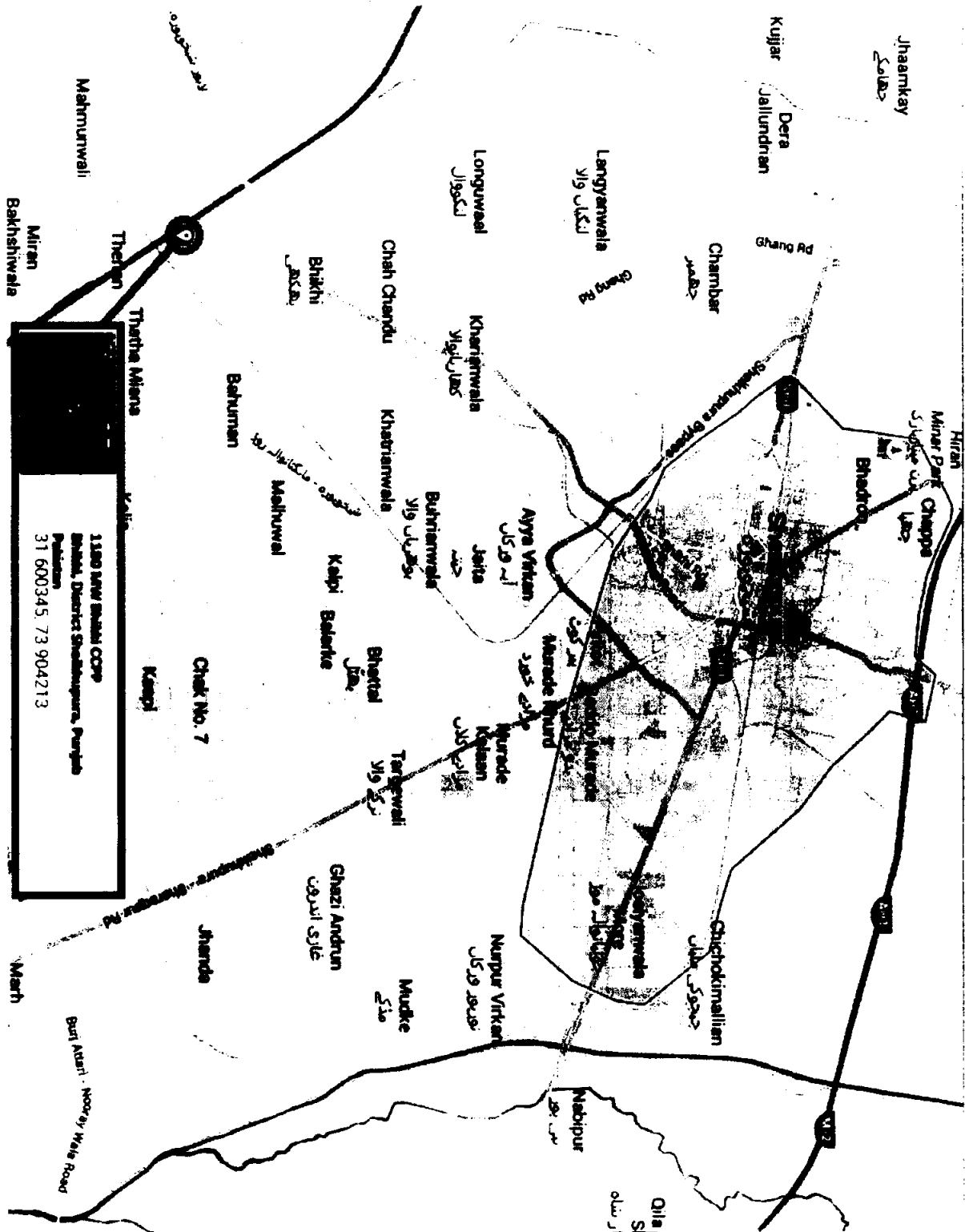


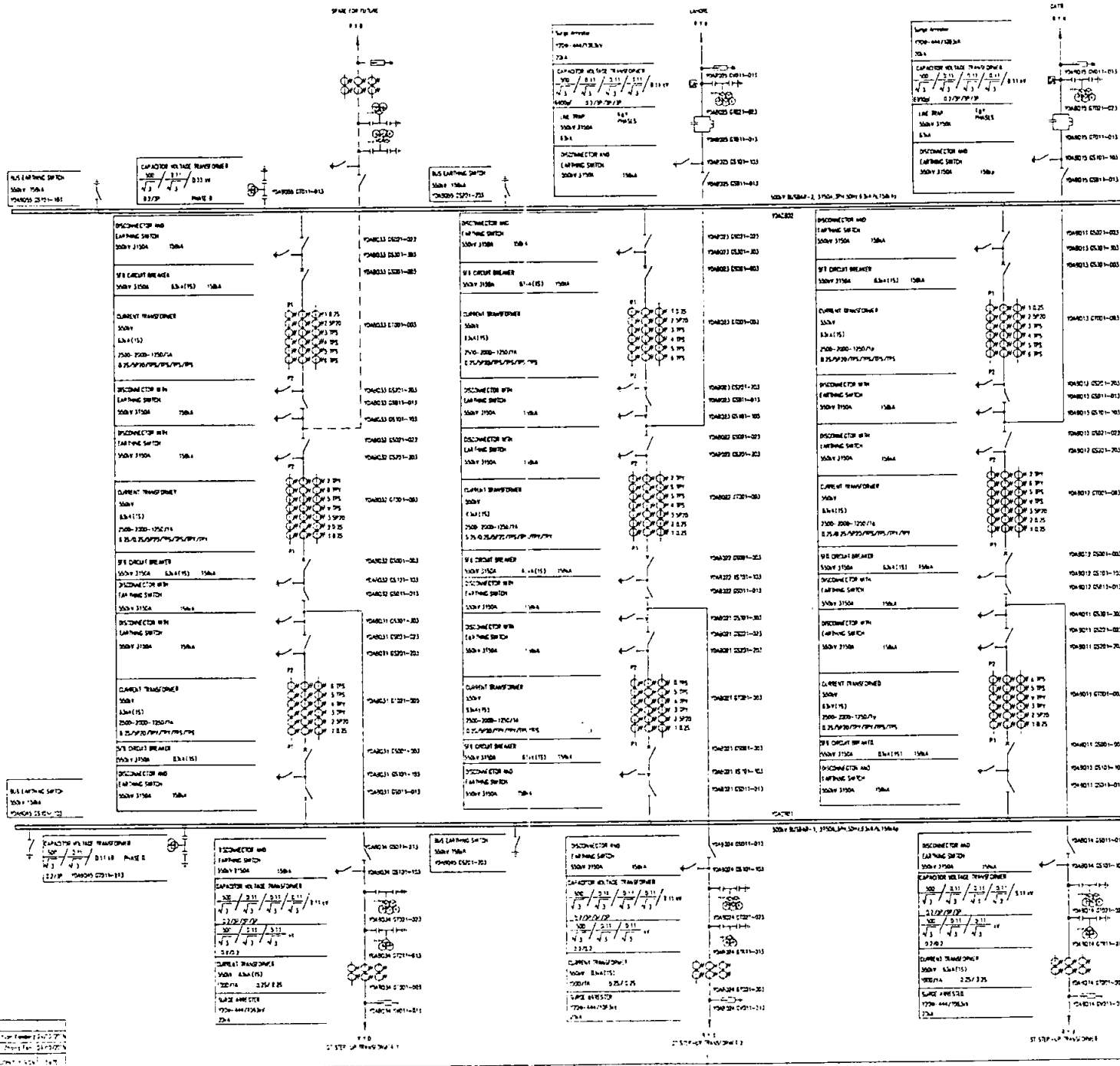
SCHEDULE-I

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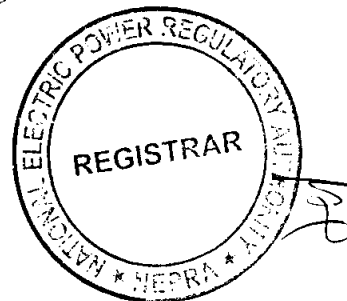
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Interconnection Facilities/
Transmission Arrangements for Dispersal of Power from the
Generation Facility

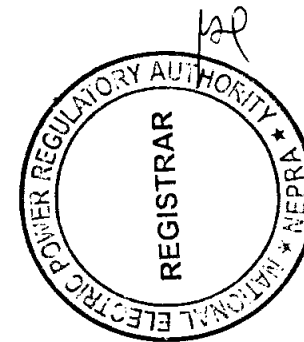
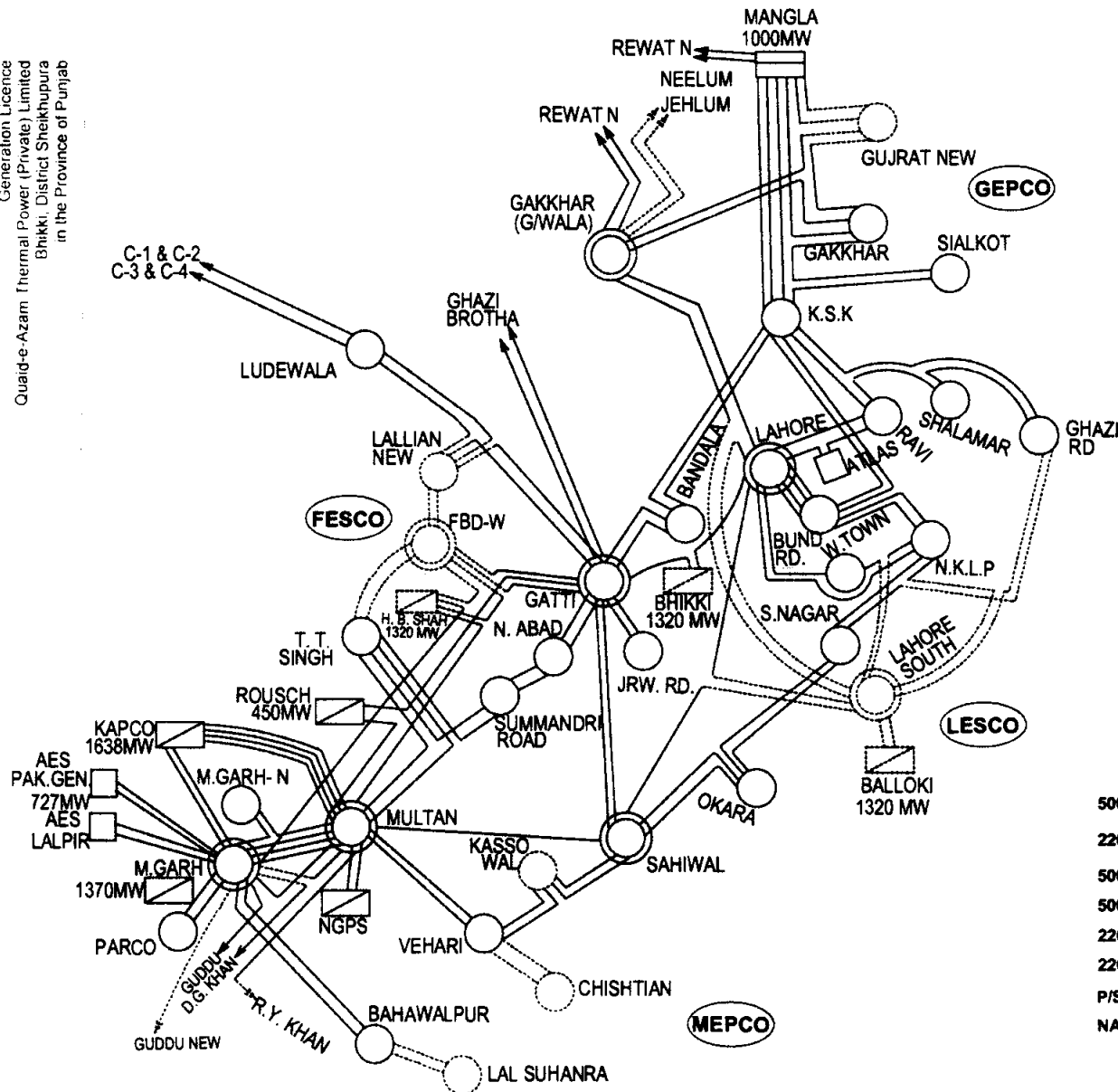
The electric power from the Re-Gasified Liquefied Natural Gas Based Thermal Generation Facility/Power Plant of the Licensee-QATPPL (Located at Bhikki, District Sheikhupura in the Province of Punjab) will be dispersed to the National Grid.

(2). The Interconnection Facilities (IF)/Transmission Arrangements (TA) for supplying to National Grid from the above mentioned generation facility shall be at 500 KV level. The dispersal/interconnection arrangement for supplying to National Grid will be consisting of a 500 KV Double Circuit (D/C) Transmission Line (Measuring about 3.00 km in length) for Making an In-Out of the existing 500 KV Single Circuit (S/C) Lahore-Gatti Transmission Line at the generation facility of the Licensee.

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



Generation Licence
Quaid-e-Azam Thermal Power (Private) Limited
Bhikki, District Sheikhupura
in the Province of Punjab



LEGEND

	EXISTING		PROPOSED	
	G/STN	T/L	G/STN	T/L
500kV				
220kV				
500kV HYDEL P/STN				
500kV THERMAL P/STN				
220kV HYDEL P/STN				
220kV THERMAL P/STN				
P/STN IPPs				
NAME OF DISCO				

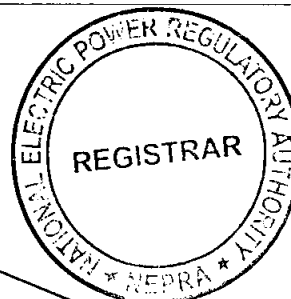
Detail of Generation Facility/Thermal Power Plant

(A). General Information

(i).	Name of Company/ Licensee	Quaid-e-Azam Thermal Power (Private) Limited
(ii).	Registered Office	7-C-1, 1 st Floor, Gulberg III, MM Alam Road, Lahore
(iii).	Business Office	-Do-
(iv).	Location of the Generation Facility/ Power Plant	2-KM off Sheikhupura-Faisalabad Road on Qadirabad-Balloki (QB) Link Canal Bhikki, District Sheikhupura, in the Province of Punjab
(v).	Type of Generation Facility/ Power Plant	Thermal Generation Facility

(B). Configuration of Generation Facility

(i).	Type of Technology	Combined Cycle Power Plant having two (02) Gas Turbines, two (02) Heat Recovery Steam Generators (HRSGs) and One (01) Steam Turbine	
(ii).	Number of Units/Size (MW)	2 x 416.00 MW Gas Turbine + 1 x 398.90 MW Steam Turbine	
(iii).	Unit Make/Model/Type & Year of Manufacture Etc.	Gas Turbine	General Electric /H Class-9HA.01
		Steam Turbine	General Electric /STF30C
(iv).	COD of the Generation Facility/ Power Plant (Anticipated)	December 31, 2017	



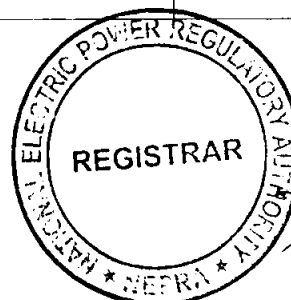
(v).	Expected Useful Life of the Generation Facility/ Power Plant from COD	30 years
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(C). Fuel/Raw Material Details

(i).	Primary Fuel	Re-Gasified Liquefied Natural Gas (RLNG)	
(ii).	Back-Up Fuel	High Speed Diesel (HSD)	
(iii).	Fuel Source for each of the above (i.e. Imported/Indigenous)	Primary Fuel	Back-Up Fuel
		Imported	Imported/Indigenous
(iv).	Fuel Supplier for each of the above	Primary Fuel	Back-Up Fuel
		Sui Northern Gas Pipeline Limited-SNGPL	Pakistan State Oil- PSO/Total Parco/Shell Pakistan/Attock Petroleum Limited
(v).	Supply Arrangement for each of the above	Primary Fuel	Back-Up Fuel
		Pipeline	Through Oil Tankers/Bowsers
(vi).	No of Storage Tanks	Primary Fuel	Back-Up Fuel
		Not applicable	2
(vii).	Storage Capacity of each Tanks	Primary Fuel	Back-Up Fuel
		Not applicable	20,000 M ³
(viii).	Gross Storage	Primary Fuel	Back-Up Fuel
		Not applicable	40,000 M ³

(D). Emission Values

		Primary Fuel	Back-Up Fuel
(i).	SO _x (mg/Nm ³)	28.46	546
(ii).	NO _x (mg/Nm ³)	50	100
(iii).	PM ₁₀	-	-



(E). Cooling System

(i).	Cooling Water Source/Cycle	Cooling water for the main cooling cycle will be taken from Qadirabad-Balloki Link Canal for 10 months and for 1-2 months ground water from tube well will be used during the canal closure period/Once Through Cycle
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(F). Plant Characteristics

(i).	Generation Voltage	18.00 kV				
(ii).	Frequency	50 Hz				
(iii).	Power Factor	0.85 (lagging)-0.95(leading)				
(iv).	Automatic Generation Control (AGC)	Yes/The AGC will be software integrated with DCS				
(v).	Tentative Ramping Rate (MW/Min)	Complex load range (% age)	Cold Start (%MW / Min)	Warm Start (%MW /Min)	Complex load range % age	Hot Start (%MW/ Min)
		0 < 39	0.28%	0.42%	0 < 46	0.86%
		> 39 < 56	1.26%	2.07%	> 46 < 63	6.8%
		> 56 < 100	1%	1.37%	> 63 < 100	3.08%
(vi).	Tentative Time required to Synchronize to Grid	Start-up Mode		Simple Cycle		Combined Cycle
		Hot Start(Not more than 08 Hours)		60 Min		200 Min
		Warm Start (Not more than 48 Hours)		120 Min		280 Min
		Cold Start (More than 48 Hours)		180 Min		300 Min



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



SCHEDULE-II

(1).	Total/Gross Installed Capacity (ISO) of the Generation Facility/Power Plant (2 × 416.00 MW G.T. + 1 × 398.9 MW S.T.)	1230.90 MW
(2).	De-rated Capacity of Generation Facility/Power Plant at Reference/Mean Site Conditions (2 × 395.64 MW G.T. + 1 × 388.85 MW S.T.)	1180.13 MW
(3).	Auxiliary Consumption of the Generation Facility/Power Plant at Reference/Mean Site Conditions	0023.46 MW
(4).	Total Net Capacity of Generation Facility/Power Plant at Reference/Mean Site Conditions	1156.67 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).

