



Registrar

National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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No. NEPRA/R/DL/LAG-454/7036-41

February 10, 2021

Mr. Liu Yidan,
Authorized Representative,
Mughal Energy Limited,
No. 560, Street No. 14, Sector A, Phase V, DHA,
Lahore.

Subject: Grant of Generation Licence No. SGC/152/2021
Licence Application No. LAG-454
Mughal Energy Limited (MEL)

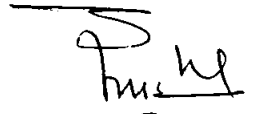
Reference: MEL's application vide letter dated June 15, 2018 (received on June 17, 2018)

Enclosed please find herewith Generation Licence No. SGC/152/2021 granted by National Electric Power Regulatory Authority (NEPRA) to Mughal Energy Limited (MEL) for its 55.00 MW Coal based Generation Facility / Thermal Power Plant located at 17-Km on Lahore-Sheikhupura Road, Tehsil & District Sheikhupura, in the province of Punjab, pursuant to Section 14(B) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997/Amendment Act, 2018. 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
(SGC/152/2021)




10 02 21
(Syed Safeer Hussain)

Copy to:

1. Secretary, Ministry of Energy (Power Division), A-Block, Pak Secretariat, Islamabad.
2. Managing Director, NTDC, 454-WAPDA House, Lahore.
3. Chief Executive Officer, CPPA-G, ENERCON Building, Sector G-5/2, Islamabad.
4. Chief Executive Officer, Lahore Electric Supply Company Limited (LESCO), 22-A, Queen Road, Lahore.
5. Director General, Environment Protection Department, Government of Punjab, National Hockey Stadium, Ferozpur Road, Lahore.

National Electric Power Regulatory Authority
(NEPRA)

Determination of the Authority
in the Matter of Application of Mughal Energy Limited for
the Grant of Generation Licence

February 10, 2021
Case No. LAG-454

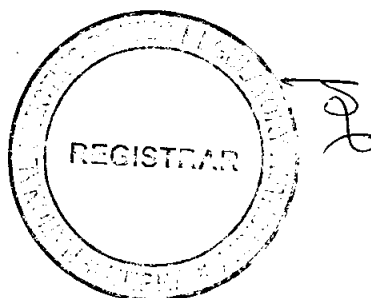
(A). Filing of Application

(i). Mughal Energy Limited (MEL) submitted an application on May 16, 2019 for the grant of generation licence in terms of Section-14B of Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act") read with the relevant provisions of the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 (the "Licensing Regulations").

(ii). The above mentioned application envisaged setting a 55.00 MW imported/local coal based generation facility at 17-Km Sheikhpura Road, Lahore and supply to relevant distribution company and then wheeling the electric power to different group companies of the Mughal Group (MG) as Bulk Power Consumers [BPC(s)].

(B). Admission of Application

(i). The Registrar examined the submitted application and found the same in compliance with the Licensing Regulations. Accordingly, the Registrar submitted the application for consideration of the Authority to decide admission of the application or otherwise. The Authority considered the matter and found the form and content of the application in substantial compliance with Regulation-3 of the Licensing Regulations.



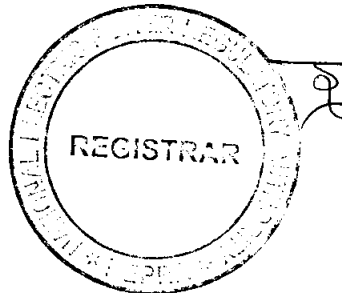
(ii). Accordingly, the Authority admitted the application on June 13, 2019 for consideration of the grant of the generation licence as stipulated in Regulation-7 of the Licensing Regulations. The Authority approved the Notice of Admission (NoA) to be published in the press for the information of the general public, interested and affected persons, inviting their comments in the matter as stipulated in Regulation-8 of the Licensing Regulations. Accordingly, the NoA/notice was published in one (01) Urdu and one (01) English newspapers on June 15, 2019.

(iii). In addition to the above, the Authority also approved a list of stakeholders for seeking their comments for its assistance in the matter in terms of Regulation-9(2) of the Licensing Regulations. Accordingly, letters were sent to different stakeholders as per the approved list on June 18, 2019, soliciting their comments for assistance of the Authority.

(C). Comments of Stakeholders

(i). In reply to the above, the Authority received comments from seven (07) different stakeholders including The Sheikhpura Chamber of Commerce & Industry Limited (TSCoC&IL), Central Power Purchasing Agency (Guarantee) Limited (CPPAGL), Punjab Mineral Development Corporation Limited (PbMDCL), Lahore Electric Supply Company Limited (LESCO), Petroleum Division of Ministry of Energy (PDMoE), National Transmission and Despatch Company Limited (NT&DCL) and Punjab Power Development Board (PPDB).

(ii). TSCoC&IL, PbMDCL, PDMoE and PPDB supported the grant of generation licence whereas CPPAGL, LESCO and NT&DCL raised various issues pertaining to the availability of excess capacity in the system, proposed wheeling arrangement and the likely stranded cost for allowing existing large consumers to have alternate supply arrangement from a generation company as being proposed by MEL.



ND-1

(D). Change in Scheme of Arrangement

(i). In the meantime, MEL made a correspondence stating that initially it submitted the application for the grant of generation licence which envisaged supplying to different group companies as BPC(s) through wheeling of power using the network of LESCO.

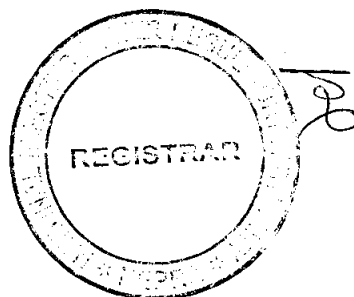
(ii). In this regard, a Grid Interconnection Study (GIS) was submitted to LESCO for which approval was not accorded presumably for reluctance to allow wheeling of power. In view of the said, MEL has planned supplying electric power directly to BPC(s) instead of wheeling.

(E). Fresh Comments of Stakeholders

(i). The Authority considered the above submissions of the MEL and acceded to the request for allowing the changes in arrangement of supply as explained in the preceding paragraph above. However, the Authority decided to publish an addendum to the already advertised NoA dated June 15, 2019, seeking fresh comments of the stakeholders.

(ii). In consideration of the above, the addendum was published in the press on January 18, 2020, seeking fresh comments of the stakeholders. Further, stakeholders were also informed about the proposed change in scheme through letters dated January 24, 2020. In reply to all the above, a total of seven (07) stakeholders submitted their comments including TSCoC&IL, CPPAGL, PbMDCL, LESCO, PDMoE, NT&DCL and PPDB. The salient points of the comments offered by the said stakeholders are summarized below: -

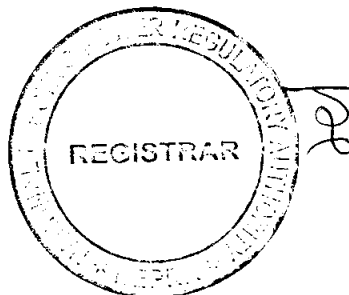
(a). TSCoC&IL submitted that country is facing shortage of electricity and as such circular debt is also increasing day by day reaching a level of around Rs. 1400 billion. Sufficient supply of electricity in adequate quantity is essential for



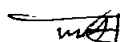
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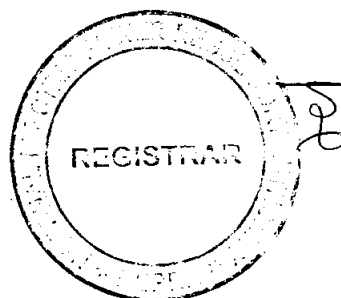
industrialization of the country. The generation of electricity in the private sector is the need of the time to meet the increasing demand of the industry. Therefore, TSCoC&IL supports the request of MEL for the grant of generation licence;

- (b). CPPAGL stated that MEL is requesting the Authority for a generation licence and also to allow it to sell the power to Mughal Steel Limited (MSL) through second-tier supply business under the NEPRA Licensing (Generation) Rules 2000 (the "Generation Rules"). However, the different locations and the expected load at each location is not clearly stated in the application. It also needs to be verified that whether demand on each location is fulfilling the criteria/ threshold of the BPC(s) as defined in the NEPRA Act (as amended 2018). It is pertinent to mention here that BPC(s) intending to purchase power from MEL must serve one (01) year advance notice pursuant to Section-22 of the NEPRA Act to the LESCO before a BPC opts to purchase power from any other supplier/generation company. Probably, allowed BPC(s) has not yet issued any notice pursuant to Section-22 to the respective DISCO(s) for such stoppage. Under its Distribution Licence, LESCO has the exclusive right to engage in the distribution services of electric power in its Service Territory. However, the MEL in its application plan to construct the independent transmission lines/feeder in the service territory of LESCO. The quantum for distributed generation needs to be ascertained in light of the demand projections (against which agreements/procurements have already taken place) while keeping in view the energy charge avoided by the

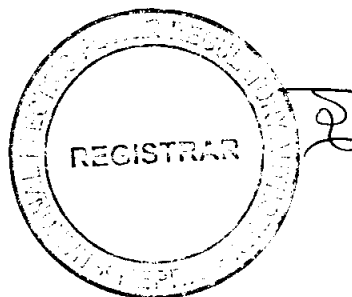


distributed generation consumers/source against which the capacity charge was supposed to be recovered (as per existing tariff structure of the end consumers). A uniform tariff required to be introduced (in the existing end consumer tariff setting framework) for the Grid Connected Distributed Generator Consumer (be it for Net-Metering or Self-Consumption) by incorporating a new tariff category in the Schedule of Tariff (SOT). A separate Category for Grid-Connected Distribution Generation (be it for Net-Metering or Self-Consumption) needs to be introduced through a Central Planning Mechanism in order to ensure proper registration and charge of respective tariff. Under the current tariff structure, large consumers pay higher tariff to cross-subsidize the small consumers. Cross-subsidization is a policy/regulatory decision and is applicable to all consumers irrespective of purchasing electricity from DISCO(s) or having bilateral contract with generators. However, charging of cross subsidy is not addressed in existing regulations and as such the BPC(s) would avoid the cross-subsidy payments. Cross subsidy is a policy/regulatory decision and as such big consumers cannot be discriminated on the basis that if the consumers opt for self-generation, it can avoid cross subsidy while the same category of consumers of DISCO(s) continue to pay cross subsidy. If this practice is not discontinued, this in turn will become an undue incentive for the remaining regulated BPC(s) to leave DISCO(s). Therefore, cross-subsidy charges should accordingly be charged to all the BPC(s) irrespective if they are DISCO(s) consumers or doing bilateral trade. The demand/supply planning cycle starting from demand projections to the approval of Indicative



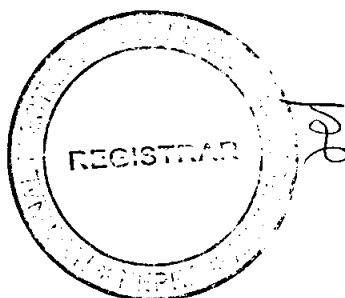


Generation Capacity Expansion Plan (IGCEP) should be adjusted to account for (a) advance notices by the BPC(s) to exit the BPC(s) and intimation to the planner to incorporate its planned generation capacity in the generation planning exercise as firm commitment, (b) recognition by the DISCO(s) in demand forecasting that the demand of this BPC will only be utilized for wires planning and not for sales, and (c) rationalization of timing of exit and return to the grid by the BPC. These changes are also very important for determining not only the period of stranded costs but also reducing further firm commitments for the pool to the extent of advance notices given by BPC(s) opting bilateral trade. The total BPC(s) accounts for 17% of the sales volume and 23% in terms of revenue generation for DISCO(s). If the stranded costs issue is not accounted for, the tariffs of different classes of remaining consumers of DISCO(s) will tremendously increase in case of reduction in different levels of sales. In the particular service territory, the distribution of electric power should remain exclusive. Additionally, from a technical perspective it is submitted that having two distinct distribution systems, each with their own distribution network operating within a electricity to end consumers, the nature of the business, the complexities and operational constraints involved in providing such services, and the capital-intensive nature of the means of providing these services, all but preclude multiple parallel or overlapping distribution service providers within a single service area. In light of the provisions of the Generation Rules, the Authority is required to scrutinize all applications for the grant of generation licence on 'least cost option criteria' including, *inter alia*, the... the short-term and the



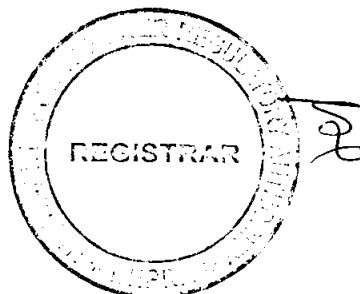
long-term forecasts for additional capacity requirements; the tariffs resulting or likely to result from the construction or operation of the proposed generation facility; and the optimum utilization of various sites in the context of both the short-term and the long-term requirements of the electric power industry as a whole. As per the existing tariff structure for the end consumer, the major portion of fixed charge (Capacity, Use of System Charges-UoSC, Market Operation Fee-MOF, Distribution Margin-DM) is being recovered through sale of energy to end consumers (i.e. Volumetric Charges). As a result, the more the number of units being sold, the less will be the per unit rate for the fixed capacity charges and vice versa;

- (c). PbMDCL submitted that it has no objection regarding installation of the proposed coal based project;
- (d). LESCO remarked that MEL has already submitted a Grid Interconnection Assessment Study Report of its 55.00 MW coal based thermal power plant to LESCO on June 10, 2019 for review/vetting for wheeling purpose, which is under process. MSL an affiliated unit of MEL, is also a BPC of LESCO having sanctioned load of 80 MW under tariff B-4 and was bound under Section-22 (2) of NEPRA Act to give one year prior notice to LESCO and shall continue to make payments to the distribution company equal to the amount of cross-subsidy for uneconomic service for which it would otherwise have provided through purchase of electric power by the bulk power consumers. MEL intends to supply power from its 55.0 MW coal based thermal power plant to affiliated units of MSL. This arrangement does not



fall under the Legal and Regulatory framework. That it is neither permissible under the utility practices nor any law that a BPC can have two separate electric power connections from two separate, distinct and independent companies/sources at the same time therefore these BPC(s) cannot be allowed to have two independent connections simultaneously from the utility. LESCO has already filed the CPLA No. 3591/19 against decision of the Authority regarding Nishat Mills Limited (NML) in the Honourable Supreme Court of Pakistan which is similar to subject cited case. Further, LESCO is already on list of Privatization and a check list has been issued by the Ministry of Privatization for the purpose of actions that should not be taken without the prior consent/clearance of the Privatization Commission are inclusive of the (a). Sale or transfer of licenses/permits etc.; (b). Closing of any line of business. LESCO vide letter No. LESCO/2019/CEO/355-57 dated November 26, 2019 has already raised certain observations and financial implications due to NEPRA (Wheeling of Electric Power) Regulations, 2016 (the "Wheeling Regulation"). Further, CPPAGL has also raised certain legal, technical and financial implications on such like arrangements vide its letters No. CPPAG/CEO/NEPRA/6086-91 dated September 04, 2018 & No. CPPA-G / CTO/ DGM(Renewable)/ 12608-13 dated June 13, 2019 and also gave a presentation in this regard to Secretary MoE (Power Division). The Secretary has already directed CPPAGL vide letter dated March 19, 2019 to collaborate with the Authority and finalize submission for amendments in the relevant regulations to enable a

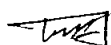


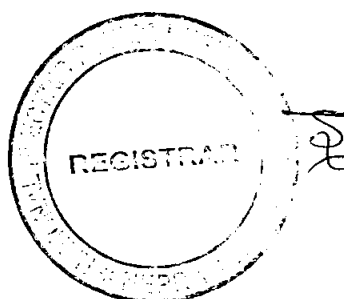




balanced and practical way forward on the subject of wheeling, which is still under process.

- (e). PDMoE remarked that the electricity generation licence applied by MEL for its proposed 55.0 MW thermal power plant based on imported and indigenous coal at Lahore, Punjab may be granted subject to the condition that due consideration shall be given in the power plant design to the characteristics of indigenous coal deposits (including Punjab & other coalfields) to allow its use as per availability/suitability. Preference would be accorded to indigenous coal based power generation and use of imported coal for this purpose may be resorted only in case of non-availability of local coal of required quality/quantity;
- (f). NT&DCL stated that pursuant to the provisions of the Grid Code i.e. planning code PC-4 and PC-4.1, it is mandated for preparation of the IGCEP on annual basis for review and approval of the Authority. In this regard IGCEP covering period from the years 2018-40 has already been submitted to the Authority for review and approval. Further all future procurement of power along with their respective timings may be subjected to the quantum ascertained to teach technology by the IGCEP coupled with the confirmation of the availability of transmission infrastructure for evacuation, duly approved by the regulator. Pursuant to decision by CCoE dated April 04, 2019 wherein it was *inter alia*, decided that all future investments will have to be dealt with under RE Policy 2019 which clearly enunciate a framework in consistent with current international market norms and greater consumer benefits. Moreover, procurement of RE



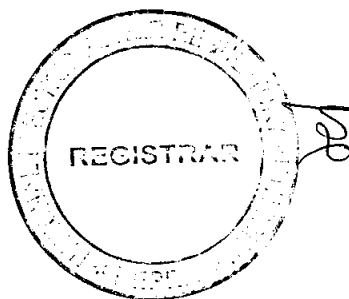




not included in category I & II will be carried out by AEDB through competitive bidding. It is therefore requested to wait for the upcoming RE Policy for detailed deliberations/SOPs in this regard. Further, in addition to above, it is suggested to Authority that the impact on power flows in the Network of NT&DCL needs to be monitored, along with the impact of demand which will be served by the generator, and this will be reflected in the demand numbers for next IGCEP; and

- (g). PPDB submitted that MEL is setting up a generation facility for using imported/local coal for power generation by deploying Circulating Fluidized Bed Combustion (CFBC) technology, having an efficiency of 37.58% which will set up new benchmark in the industry. PPDB supported the grant of generation licence to MEL.

(iii). The Authority examined/reviewed the above comments of the stakeholders and in view of the observations of CPPAGL, LESCO & NT&DCL considered it appropriate to seek the perspective of MEL on the same. On the comments of CPPAGL, it was submitted that various points have been raised which can be divided into three (03) broad categories including (A). Legal and Regulatory Framework; (B). Technical and Commercial Implications; and (C). Compliance of various provisions of the NEPRA Act, rules and regulations framed thereunder. In this regard, CPPAGL has highlighted (a). Threshold of BPC; (b). Notice period for BPC for switching from DISCO; (c). Exclusive rights of DISCO; (d). Quantum for Distributed Generation needs to be ascertained; (e). Introduction of uniform/separate tariff for the Grid Connected Distributed Generator Consumer; (f). Cross subsidy (g). Planning cycle including IGCEP; and (h). Compliance with Generation Rules.



(iv). In consideration of the above, MEL on the issue of threshold of BPC, explained that it had submitted an application for the grant of generation licence for its proposed generation facility and for allowing an authorization for supplying to different BPC(s) as stipulated in the NEPRA Act, relevant rules and regulations framed thereunder. MEL clarified that the generation facility is planned to be set up at 17-Km Sheikhpura Road, Lahore which is only 50-100 meters away from cluster of units of the group to whom the electricity generated from the said facility will be supplied. In this regard, the potential BPC(s) include (a).Mughal Iron and Steel Industries Limited-MI&SIL (25 MW); (b). Mughal Steel Metallurgies Corporation Limited-MSMCL (05 MW); and (c). Indus Steel Mills Corporation (Pvt.) Limited-ISMCP (05 MW). According to the provisions of the NEPRA Act, a BPC is a consumer which has a connected load of at least 1.00 MW and all the above mentioned industrial units/concerns of the group fulfils the criteria enshrined in the governing law.

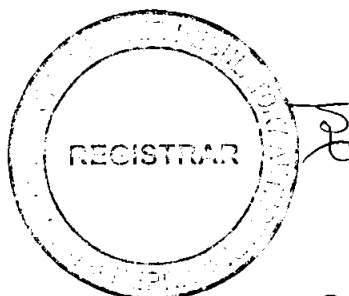
(v). Regarding the notice period for BPC to DISCO, it was stated that the proposed generation facility is being set up to cope with the additional demands of the different units of the MG which is likely to be expected due to future expansion/natural growth of these units while maintaining the connection from the utility/DISCO as well. Therefore, the question of notice does not arise. However, it is confirmed that if any of the BPC(s) stops purchasing power from the DISCO, all the requirements of the relevant law will be adhered with without any exception. It is pertinent to mention that that proposed generation facility has construction lead time of two (02) years therefore, it is not prudent that these BPC(s) give notice to the utility on the basis of mere submitting an application with the regulator without knowing its fate.



(vi). About laying of feeders in the exclusive territory of the utility, MEL conceded that LESCO has exclusivity under its distribution licence till March 31, 2022 however, despite the said exclusivity the Authority has been allowing different generation facilities laying of feeders for supplying to their BPC(s) and then such feeders are handed over to DISCO(s) for O&M purposes. In this regard, MEL plans to have the similar arrangement as the Authority had allowed previously and a similar treatment is expected in this regard. In consideration of the said, it is clarified that the maximum portion of the proposed feeders will be allocated on private property owned by the group and only a small portion of the arrangement will fall on public property i.e. crossing of a road for which underground cable will be preferably deployed for which all the necessary approvals will be sought. The laying of underground cable will not only make the arrangement safe but will also allow LESCO to expand its system without any hindrance which is actually the purpose of the exclusivity.

(vii). Regarding ascertaining the quantum for Distributed Generation needs, MEL confirmed that the concerned entities involved in ascertaining the demand forecasting may deploy the latest tool and keep a cushion for distributed generation such as being proposed. It is pertinent to mention that MEL is proposing a facility of 55 MW which is just a meager amount when compared to the overall system of the country or even that of the concerned utility.

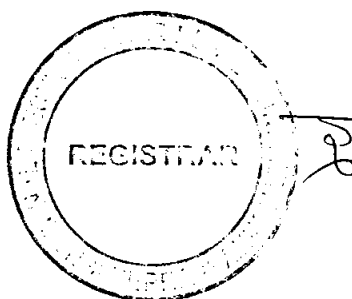
(viii). About the introduction of uniform/separate tariff for the Grid Connected Distributed Generator Consumer, MEL acknowledged that the determination of tariff is sole prerogative of the regulator and if it is considered appropriate that a new tariff category is to be determined for the above kind of consumers i.e. Grid Connected Distributed Generator Consumer(s), MEL has no objection if such an arrangement is based on the cost of service and the same is applied across the board. As explained above, the determination of tariff is sole prerogative of the regulator and if it is considered appropriate that a new tariff



category is to be determined for the above kind of consumers i.e. Grid Connected Distributed Generator Consumer, MEL has no objection if such an arrangement is based on the cost of service and the same is applied across the board. Further, steps like registration etc. as being suggested are actions of the future and may be considered if viable without restricting it our application for the grant of generation licence.

(ix). As regards the cross subsidy being provided by the BPC(s), it was submitted that the issue highlighted is phenomenon which has implications for the whole industry. In this regard, the large consumers always feel that they are being subjected to a tariff which are far above their actual cost of service. In this regard, it was envisaged in the early nineties that this practice was to be discounted in a systematic way however, the same is continuing even after a lapse of more than twenty (20) years of the promulgation of the NEPRA Act which is seriously affecting the competitiveness of the industry. MEL considers that such mechanism needs to be rectified for reducing the cost of production of the industry instead of continuing the same. In this regard, we will like to suggest that utilities must broaden their base of consumers and clear their backlog of pending applications requiring connections instead of burdening the exiting consumers in one shape or the other. Further, the utilities must invest in infrastructure to provide uninterrupted supplies to industry to the extent possible so that they do not look for options like self-generation etc. Unless said issues are fixed, expecting industries to bear the burden of inefficacies will not be fair for the economy of the country which will ultimately suffer due to such decisions.

(x). About the demand/supply planning cycle etc. it was stated that the issue highlighted mainly pertains to planning for which NT&DCL has been entrusted to carry out the job and prepare the IGCEP which is still in the phase of formulation. Further, it was stated that MEL has only applied for the grant of generation licence for the facility and the proposed BPC(s) will strictly follow the provisions of the relevant law relating to giving notice well before time to the utility

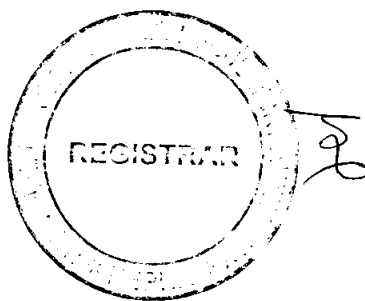


once the facility go into construction and is ready for supply. Similarly, the issue of stranded cost is not limited to the application under consideration of the Authority for the proposed 55 MW coal based generation facility and needs deliberations at length to arrive at an informed decision. MEL assured the Authority of full cooperation of any proceedings in this regard are initiated and also assure to comply with the decision taken.

(xi). Regarding the compliance of the relevant rules for the grant of generation licence, it was submitted that criteria prescribed is applicable for projects to be carried out for supply to the National Grid and is not applicable to proposals of industries which not only consider the least cost but also considers and require stability of supply for which there may be additional cost. However, MEL is confident that its proposal for the coal project will not only be cost effective and will fullfil the criteria laid down in the rules for the reasons explained above specially the constraints of the system and small length of feeders to be laid.

(xii). About the observations of LESCO which has raised the issues of (a). GIS of the project is still under approval; (b). MSL is a BPC of LESCO and is required to give one year prior notice if it intends to stop purchasing and continue making payment of subsidy; (c). Having dual connection is not a standard norm of the industry and may have operational issues; (d). LESCO has filed petition against decision of the Authority for allowing laying feeders; (e). Proposed Privatization of LESCO and its exclusivity; (f). Objections of LESCO on the existing Wheeling Regulations; and (g). Issues raised by CPPAGL regarding wheeling.

(xiii). Regarding the approval of the GIS, it was submitted that initially it was envisaged that the proposed 55.00 MW coal based generation will be connected to the system of LESCO for which the required study was carried out through a well reputed consultant and was submitted for the approval of the utility/DISCO. However, for reasons best known to LESCO the GIS was not

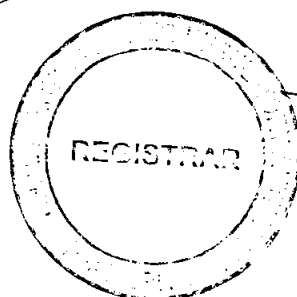


approved and remained pending. MEL stated that LESCO on realizing the fact that the generation facility will be utilized for the purpose of wheeling, there is some reluctance on the part of the utility/DISCO and the GIS is not being approved and resultantly the arrangement of wheeling has now been dropped and therefore, there is no requirement of the approval of the same.

(xiv). About the requirement of giving one year notice, it was submitted that in terms of Section-22 of the NEPRA Act, a BPC switching from DISCO is required to give one year notice. Further, the said section does not envisage any cross subsidy as the legislator has taken the same out from the provisions of the NEPRA Act in its amendments in the year 2018. MEL confirmed that the proposed BPC(s) will strictly follow the provisions of the relevant law for giving the required notice if they planned to switch away from DISCO/LESCO.

(xv). Regarding the observation of LESCO that proposal of MEL for supplying to BPC(s) is not line with the regulatory framework, MEL submitted that in terms of Section-22 of the NEPRA Act, a BPC is allowed to have a connection from any licensee including a generation company, therefore, the comment of LESCO that the submitted proposal does not fall within the ambit of the regulatory framework is not comprehensible. In this regard, MEL highlighted and referred to various determinations of the Authority which are available in public domain whereby similar arrangement had been allowed.

(xvi). As regards the observations of LESCO of dual connections for BPC(s), it was submitted that a consumer especially industrial concern have their own peculiar requirements and may require dual sources to allow their smooth operations. The Authority had allowed in the past such an arrangement for a number of BPC(s), the determinations of the same are available in public domain and can be referred to for this purpose.

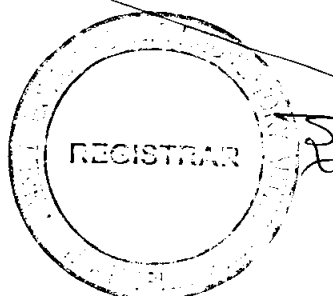


(xvii). About any pending petition of LESCO for allowing laying of feeders to NML, it was submitted that MEL was not aware of the complete facts of the case however, what is available in public domain is that the Authority had allowed NML to lay feeders for connecting to its industrial concerns located some kilometers apart. LESCO contested that such arrangement can only be allowed in the case of BPC(s) and not for industrial consumers having the same legal entity. As explained above, the coal based facility is a separate legal entity other than the proposed BPC(s) therefore, our case is completely different from that of NML and no parallel can be drawn.

(xviii). Regarding the observations of LESCO that it is on the plan for privatization therefore, none of asset can be sold/transferred or any line of business can be closed. In this regard, MEL submitted that its application for the grant of generation licence has been submitted strictly in line with the provisions of the NEPRA Act and the relevant rules and regulations framed thereunder and is no way have any nexus with the proposed privatization of LESCO etc.

(xix). As regards the observations of LESCO on wheeling and the issues raised by CPPAGL in the said matter, MEL submitted that modality of supply has been changed and now the BPC(s) will be supplied directly instead of wheeling. Therefore, observations if any on wheeling arrangement are not applicable in the case of MEL. Further to the said, MEL is aware that the Authority is actively involved in resolving various issues pertaining to wheeling and the decision in the matter will be binding for all the stakeholders.

(xx). About the observations of NT&DCL as explained in the preceding paragraph, MEL explained that it is setting up the generation facility for supplying to designated BPC(s) of the MG and therefore, the proposal has no nexus with the preparation of the IGCEP and decision of the CCoE which are meant for



facilities supplying for National Grid therefore, the observations have no nexus to its application for the grant of generation licence.

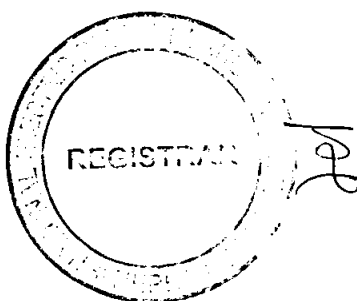
(xxi). The Authority considered the above submissions of MEL and considered it appropriate to proceed further in the matter as stipulated in the NEPRA Act, relevant rules and regulations framed thereunder.

(F). Evaluation/Findings

(i). The Authority has examined the submissions of MEL including the information provided in its application for the grant of generation licence. In this regard the feasibility study of the project, interconnection & dispersal arrangement studies, etc., provisions of the NEPRA Act, the relevant rules and regulations, have been considered.

(ii). The applicant i.e. MEL is an entity/company incorporated under Section -2 of the Companies Ordinance, 1984 (XLVII of 1984), having Corporate Universal Identification No. 0080938 dated August 29, 2012. It is a public listed company having Registered/Business Office at Plot No. 31 Shadman-1 Colony, Lahore in the province of Punjab. According to the Memorandum of Association, the objects of the company, *inter alia*, include business of electric power generation. It is pertinent to mention that MEL is an associated company of MI&SIL, which is one of the leading companies of Pakistan in the iron and steel sector. The Company is involved in multidimensional activities from making billets of Mild Steel, Spring Steel, Deformed bar, Re-bar, Cold Twisted Rebar and a huge range of Sections such as I.Beams, L.Sections, C.Section, H.Beam, T.Bar etc. in the downstream industry. MI&SIL has sound financial position as it has assets to the tune of Rs. 22.00 billion as per the balance sheet of 2019-20.

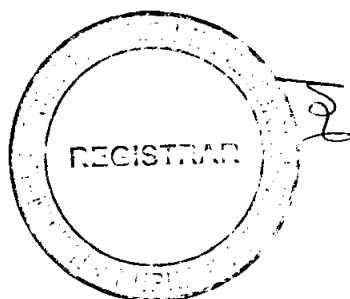
(iii). As explained above, the application for grant of generation licence under consideration envisages setting up a 55.00 MW generation facility at 17-Km Sheikhpura Road, Lahore for supplying to different entities as BPC(s).



According to the submitted information, the total cost of the project will be about U.S. \$ 74.25 million which will be financed through a combination of debt (75% of the total cost of project i.e. U.S. \$ 55.688 million) and equity (of 25% of the total cost of project i.e. U.S. \$ 18.562 million). In this regard, a number of financial institution/commercial banks have shown their willingness to finance the debt portion of the project.

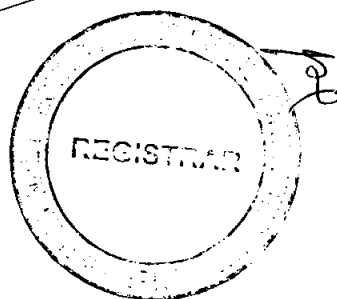
(iv). The sponsor carried out a feasibility study of the project including *inter alia*, selection of technology for the generation facility including minimum efficiency of the type of coal for the facility, coal transportation, coal handling, ash disposal, water requirements, equipment details, soil tests reports, technical details pertaining to selected steam turbine and other allied equipment to be used at the coal power plant, electrical studies, environmental study and project financing etc. It is pertinent to mention that ENERGOPROJEKT PRAHA of Czech Republic carried out the feasibility study of the project which after considering various factors of the projected including the flexibility in the type of coal and ultimate requirements of the BPC(s) selected Circulating Fluidized Bed Combustion-CFBC technology with 1 x 55.00 MW Steam Turbine.

(v). The proposed size of the generation facility has been estimated after a thorough analysis of the load requirement of the future growth. The proposed generation facility will be utilizing imported as well as local coal in blended form. As explained above, the consultant carried out a detailed feasibility study and selected CFBC technology for the project. The proposed technology is mature and is capable of using different types of coals (low-grade coal, biomass, sludge, waste plastics, and waste tires as fuel). CFBC has high combustion efficiency that is attained through the use of a circulating fluidization-mode combustion mechanism. The CFBC technology has different features including saving in space and ease of maintenance. The space saving is attained because there is no need for separate desulfurization, de-nitration and fine-fuel crushing units. Accordingly, trouble-spots are minimized, and maintenance is simplified. It



is pertinent to mention that Sub-Critical is the most deployed technology worldwide and as per the statistics available 80% of the coal power plants are of/based on subcritical technology. Further, with the proposed sizing only this technology is available in market due to metallurgical limitations. The proposed generation facility is based on the parameters of 114 bar(a) and 545°C at the boiler outlet. MEL has proposed to install a 1 x 55.00 MW Condensing Steam Turbine of Hangzhou Steam Turbine Co. Limited China, Siemens Germany, GE USA, Ansaldo or equivalent etc. which are well reputed worldwide. The guaranteed gross efficiency of boiler at Reference Site Conditions (RSC) is about 92.7%, gross efficiency of generators at RSC is 98.5% and the gross efficiency of steam turbines is 44.78%. Accordingly, the gross efficiency of the proposed generation facility/thermal power plant will be around 37.58% whereas the net efficiency of same will be around 35.00%.

(vi). Regarding the fuel required for operation of the project, it has observed that the generation facility will be operated with a mixture of several types of coal as a basic fuel. The basic fuel for the first five years of operation of the generation facility will be imported coal only. The coal is planned to be imported from South Africa and Indonesia. After first five years of operation, it is anticipated to utilize mixture of imported and local fuel. The mixture is presumed at maximum ratio 50%:50%. The imported coal will be transported through marine shipment and trucks to the site whereby it will be stored in sheds and yards before using the same for power generation duly complying with the required standards. It is pertinent to mention that the annual requirement of the coal of the generation facility will be about 200,000 metric tons. The coal will be shipped to Karachi port by sea from overseas suppliers, and then transported to the generation facility/thermal power plant by trucks. One open coal storage yard will be constructed at site with storage capacity of 9000 tons and a closed shed of around 9000 tons.

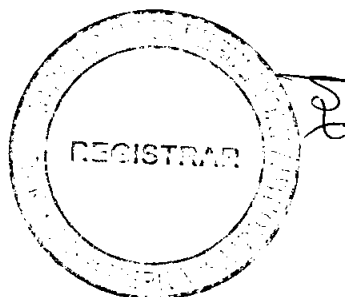


(vii). About the water requirement for cooling and other purposes, it has been noted that the same will be managed by utilizing the ground water available at site through a closed cycle process. In order to have saving of water and optimum utilization of water resources, the multi-purpose, graded use and repeated utilization mechanism will be applied. Regarding impact of the project on environment, MEL has confirmed that an Environmental Impact Assessment (EIA) of the project was carried out and the same was submitted for approval of the Environmental Protection Department Govt. of Punjab (EPDGoPb) and necessary No Objection Certificate (NOC) was also issued confirming that project will follow the National Environmental Quality Standards (NEQS). In view of the importance of the matter, the Authority considers it appropriate that MEL is made obligatory to comply with the relevant environmental standards through the terms and conditions of the proposed generation licence.

(viii). As explained above, the electric power from proposed generation facilities will be supplied to different entities of the MG as BPC(s). These include (a).MI&SIL (25 MW); (b). MSMCL (05 MW); and (c). ISMCPL (05 MW). In this regard, it is pertinent to mention that BPC is a defined term as stipulated in Section 2 (ii) of the NEPRA Act. According to the said, a BPC is a consumer which purchases or receives electric power, at one premises, in an amount of one megawatt or more or in such other amount and voltage level and with such other characteristics as the Authority may specify and the Authority may specify different amounts and voltage levels and with such other characteristics for different areas. As explained above, all the proposed industrial units plan to purchase electric power from MEL in an amount of more than 1.00 MW, therefore, all these industrial units can be allowed as BPC(s) of MEL.

(ix). According to the system study of the project, the Authority has observed that for supplying to the proposed BPC(s), the company/MEL will be required laying 5 x 11 KV Feeder(s) mostly located on private property owned by

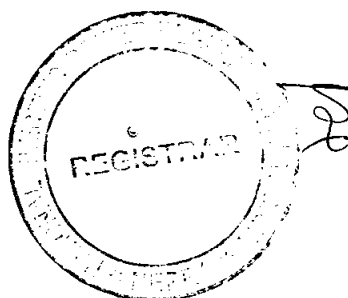




the MG/BPC(s) however, a small portion measuring about 20-30 meter of these feeders will cross a public property/road which is part of the Service Territory of LESCO.

(x). Regarding the Rule-3(5) of the Generation Rules which stipulates that the Authority may refuse to issue a generation licence where the site, technology, design, fuel, tariff or other relevant matters pertaining to the generation facility/power plant proposed in an application for a generation licence are either not suitable on environmental grounds or do not satisfy the least cost option criteria. In this regard, the Rule-3(5) of the Generation Rules stipulates the conditions pertaining to Least Cost Option Criteria which includes: - (a). sustainable development or optimum utilization of the RE or non-RE resources proposed for generation of electric power; (b). the availability of indigenous fuel and other resources; (c). the comparative costs of the construction, operation and maintenance of the proposed generation facility/thermal power plant against the preferences indicated by the Authority; (d). the cost and right-of-way considerations related to the provision of transmission and interconnection facilities; (e). the constraints on the transmission system likely to result from the proposed generation facility/thermal power plant and the costs of the transmission system expansion required to remove such constraints; (f). the short-term and the long-term forecasts for additional capacity requirements; (g). the tariff resulting or likely to result from the construction or operation of the proposed generation facility/thermal power plant; and (h). the optimum utilization of various sites in the context of both the short-term and the long-term requirements of the electric power industry as a whole.

(xi). In view of the above, the Authority considers that the proposed project will result in optimum utilization of the indigenous resources of local coal by blending it with imported coal. As explained in the preceding paragraphs above, the company will be supplying to BPC(s) directly which only involve laying a few meters length of feeders which concludes that the project will not face any



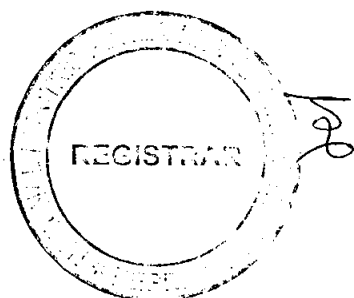
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constraints in transmission of power. Further, being located in the same vicinity of the BPC(s), the project will not result in cost and right-of-way issue for the provision of interconnection facilities. In view of the said, the Authority considers that the project of MEL fulfills the eligibility criteria for grant of generation licence as stipulated in the NEPRA Act, rules and regulations and other applicable documents.

(xii). The Authority in its Regulatory Meeting (RM-20-27, held on January 17, 2020) while allowing the change in scheme of arrangement as explained at Para-D above, decided to hold a hearing to discuss (a). environmental concerns; (b). use of sub-critical technology; (c). use of imported coal; and (d). Right of Way (ROW) regarding laying of feeders/transmission lines. In this regard, the hearing through ZOOM was held on August 26, 2020 which was participated by the representatives of MEL.

(xiii). On the issue of environmental concerns of the project, MEL submitted that the sponsors of the project carried out the EIA of the project through a well renowned consultant. The consultant submitted the EIA to EPDGoPb which after going through a detailed process as per its rules/regulations granted NOC for the project. MEL submitted that in view of the said NOC, there are no environmental concerns from the project. About the transportation of coal and handling at site, it was confirmed that the same will carried out as per the best/prudent practices without causing any environmental issues. In this regard, MEL confirmed that MG is an ISO Certified company and it is obligatory for it to comply with all the standards.

(xiv). About the use of sub-critical technology, it was submitted that the proposed size of the generation facility is 55.00 MW which has been estimated after a thorough analysis of the load requirement of the future growth. The proposed generation facility will be utilizing imported as well as local coal in blended form. In this regard, the consultant carried out a detailed feasibility study

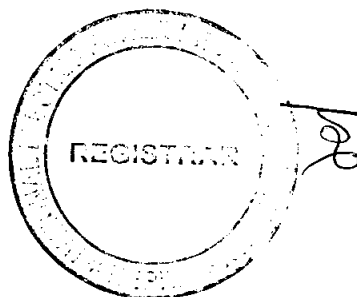


and selected CFBC technology for the proposed generation facility. The selected technology is mature and is capable of using different types of coals (low-grade coal, biomass, sludge, waste plastics, and waste tires as fuel). CFBC is high combustion efficiency/improved combustion efficiency that is attained through the use of a circulating fluidization-mode combustion mechanism. Further, CFBC technology has also advantages of space-saving and ease of maintenance. The space saving is attained because there is no need for separate desulfurization, de-nitration, and fine-fuel crushing units. Accordingly, trouble-spots are minimized, and maintenance is simplified. It was also submitted that sub-critical is the most deployed technology worldwide and as per the statistics available 80% of the coal power plants are of said type. Further, with the proposed sizing only this technology is available in market due to metallurgical limitations. In view of all above factors, the consultant has recommended CFBC boiler operating on sub critical technology.

(xv). Regarding the use of imported coal, it was submitted that the proposed CFBC boiler is capable of operating on various fuels including imported coal as well as the locally available coal in the country. The use of imported coal is not new in the country as almost 80% of the cement plant are using it for the past three decades. However, as availability of local coal is improving MEL will increase its use even upto 50% to comply with the environment standards on the issue of Sulphur.

(xvi). Regarding the issue of ROW for laying the feeders for connecting the generation facility, it was stated that MEL has planned supplying to the proposed BPC(s) directly by laying feeders. In this regard, most of the ROW falls within the boundary of the property of the group and only a small portion of the ROW measuring around 25-30 meters falls on public property for which proper permission will be obtained. The crossing will be made through underground cable/overhead feeders and the same will be handed over to LESCO for operation and maintenance. In this regard, MEL submitted that the said scheme

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is in line with the previous decisions of the Authority whereby such type of arrangement was allowed.

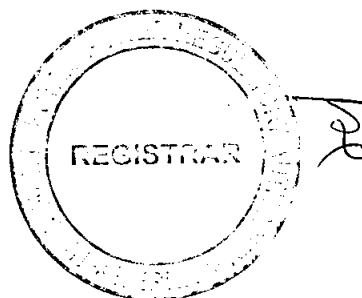
(G). Grant of Licence

(i). The Authority considers that electric power/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-HDI, life expectancy at birth, infant mortality rate, and maternal mortality) and Economic Indices (such as GDP per capita etc.).

(ii). The Authority is of the considered opinion that increasing the per capita consumption of electricity 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 considers that for sustainable development, the availability of electricity to the industrial units at an affordable prices must be ensured.

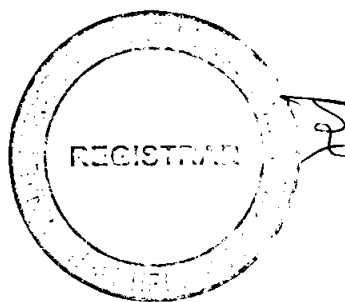
(iii). The Authority has observed that lately the demand supply situation of electric power in the country has improved considerably however, the transmission and distribution constraints are still existing. In view of the said, the industrial units are still facing issues of reliability and continuity of supply for which such entities are constraint to have other sources of electricity including Captive Power Plant or supply arrangement from third party sources of generation.

(iv). The Authority has noted that the generation facility of MEL is being set up primarily to meet with the electric power requirements of industrial units of the MG. As explained in the preceding paragraphs, the proposed BPC(s) fulfills the requirements as stipulated in Section-2(ii) of the NEPRA Act. In view of the said, the Authority declares MI&SIL, MSMCL and ISMCPL as BPC(s) of MEL under Section-22 of the NEPRA Act.



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(v). As explained in the preceding paragraphs, the supply to the generation facility of MEL to BPC(s) will be made through six (06) feeders of 11 KV each. According to the information provided, the proposed feeders will be mostly located on private property owned by the MG/BPC(s) however, a small portion measuring about 20-30 meter of these feeders will cross a public property/road which is part of the Service Territory of LESCO for which it has exclusivity in terms of Section-21 of the NEPRA Act and Article-7 of its Distribution Licence No. 03/DL/2002, dated April 01, 2002. In this regard the Authority has observed that in terms of Article-9 of its said Distribution Licence, LESCO is obligated to offer its distribution system to any licensee supplying to a BPC, for which the Authority has been determining the UoSC. In consideration of the said, LESCO may consider providing the connectivity for transporting the electric power for a BPC/affiliated unit from a generating company. In light of the comments of LESCO as explained in the preceding paragraphs, it is clear that LESCO has not shown any intention to construct the proposed Feeder(s) connecting the generation facility of MEL to its prospective BPC(s) whereas, MEL and its prospective BPC(s) are ready to construct such facilities. However, the construction of Feeder/laying of overhead Feeder/underground cable by the MEL or its BPC(s) has implications, as it will require modification in the Distribution Licence of LESCO for carving out part of its Service Territory to accommodate these Feeders/underground cables. In this regard, the Authority does consider the modification in the Distribution Licence of LESCO desirable as it will restrict the future expansion of the utility. Therefore, the Authority considers allowing MEL or its BPC(s) to construct the distribution lines at their cost and hand over the same, either on lease basis or through outright sale to LESCO. However, LESCO will not be allowed to connect the said facilities with its main distribution system. Further, operation and maintenance of the facilities may be carried out by MEL or BPC or LESCO on mutually agreed terms and conditions. Accordingly, the Authority directs MEL or BPC(s) and LESCO to agree to a mutually beneficial arrangement for laying the Feeder/cable to allow supplying to the prospective

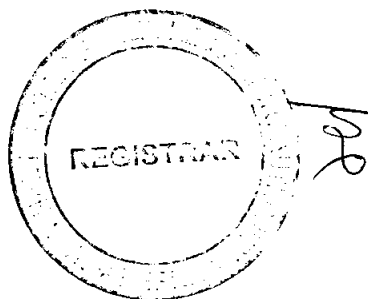
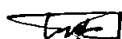


BPC(s) without violating the exclusivity of the DISCO. In laying the overhead Feeder/underground cable, MEL and its BPC(s) are directed to adhere to all relevant construction, safety and operational standards. However, in case of any dispute, the matter will be referred to the Authority for adjudication and decision.

(vi). The term of a generation licence under Rule-5(1) of the Generation Rules is required to match with the maximum expected useful life of the units comprised in a generating facility, except where an applicant for a generation licence consents to a shorter term. According to the information provided by the MEL, the Commercial Operation Date (COD) of the proposed generation facility/thermal power plant will be July 01, 2023 and it will have a useful life of more than thirty (30) years from its COD. In this regard, the MEL has requested that the term of the proposed generation licence may be fixed to thirty (30) years. The Authority observes the submission of MEL regarding the useful life of the proposed generation facility are as per national and international benchmarks and standards therefore, the term of the generation licence is set to thirty (30) years from COD of the generation facility, subject to provisions of Section-14B of the NEPRA Act.

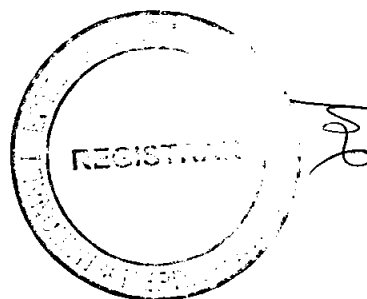
(vii). Regarding the rates, charges and terms and conditions of the tariff between MEL and its BPC(s), it is clarified that under Section-7(3)(a) of the NEPRA Act, determination of the tariff, rate and charges etc. is the sole prerogative of the Authority. However, the Authority observes that the tariff between MEL and its BPC(s) is a bilateral issue and does not affect any other consumer or third party. Therefore, in this particular case, the Authority considers it appropriate to direct MEL and its BPC(s) to agree on a bilateral agreement and accordingly, MEL will be allowed to charge the mutually agreed tariff to its BPC(s).

(viii). As explained in the preceding paragraphs, MEL has already obtained NOC from EPDGoPb and has confirmed that the project will comply with the required standards during the term of the generation licence. In view of the



importance of the issue, the Authority has included an exclusive article (i.e. Article-10) in the generation licence, making it obligatory for the MEL to comply with relevant environmental standards at all times. Further, the Authority directs the MEL to submit a report on bi-annual basis, confirming that operation of its generation facility/thermal power plant is in compliance with the required environmental standards as prescribed by the concerned environmental protection agency.

(ix). The Authority has considered the comments of the stakeholders offered during the course of the processing of the application. As explained in the preceding paragraphs, CPPAGL and LESCO have raised various issues including (a). the locations and the loads of the proposed BPC(s) not specified; (b). non-fulfillment of notice period under Section-22 of the NEPRA Act for switching from DISCO to any other source; (c). Laying of feeders in the exclusive territory of LESCO; (d). the quantum for distributed generation needs to be ascertained; (e). incorporation of a new category of tariff for consumers having Distributed generation source; (f). introduction of registration mechanism in central planning for distributed generation; (g). Cross-subsidization by BPC(s) to subsidized consumers; (h). incorporation of distributed generation in the IGCEP; (i). fulfillment of the provisions of the Generation Rules for the grant of generation licence; and (j). future procurement for RE be made under proposed policy under formulation. In consideration of the above, the Authority has observed that MEL has also responded to the queries raised and found the same plausible. However, the Authority considers it appropriate to give its determination in the matter by addressing to the above observations. The Authority has observed that MEL has provided the complete detail of its proposed BPC(s), their location and the electric power requirement of each fulfilling the requirement of Section-22 of the NEPRA Act as explained in the preceding paragraphs. Regarding the notice period to be given by BPC if it shifts to any source of supply other than DISCO, MEL has already clarified that its proposed BPC(s) will maintain their respective connection from LESCO therefore, the question of giving notice to utility does not arise.



Further, MEL has also clarified that if its BPC(s) plan complete switch, the relevant provisions of the NEPARA Act, relevant rules and regulations will be fulfilled without any exception. About laying of feeders in the exclusive territory of LESCO, the Authority has considered the matter and has given its detailed determination at Para G(v) above. Regarding the observation that the quantum for distributed generation needs to be ascertained and registration of entities be made for entities involved in the distributed generation at the stage of planning. The Authority considers the planning function to be very critical to avoid shortage or surplus in generation segment thus avoiding the boom and bust cycle usually experienced in the country. The Authority considers that NT&DCL is the entity involved in the planning and may with the assistance of other related entities of the power sector including but not limited CPPAGL or DISCO(s) may adopt any suitable tools to make the estimation of supply-demand realistic to formulate a pragmatic IGCEP as being envisaged. About the incorporation of a new category of tariff for consumers of DISCO having distributed generation source, it is clarified that the issue is under consideration of the Authority and any decision made will be applicable to all consumers including those contracting other sources. In this regard, MEL in its submissions as explained in the preceding paragraphs, has confirmed that any decision of the Authority in this regard will be followed in letter and spirit without any exception. About the issue of cross-subsidization by BPC(s) to subsidized consumers, the issue has been in deliberation and the Authority through its decision No. NEPRA/R/ADG(Tariff)/TPF-100/XWDISCOs/1080- 1082 January 11,2021 has given its determination and the same will be applicable across the board including the proposed BPC(s) of MEL. Regarding the fulfillment of the provisions of the Generation Rules for the grant of generation licence, the Authority invariably performs the same and it has also been done in the current case of MEL as explained at Para F(x) to F(xvi) above. In consideration of the said, the Authority considers that observations of the stakeholders stand resolved and addressed.



(x). In view of the above, the Authority hereby approves the grant of generation licence to MEL 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 thereunder and other applicable documents.

Authority:

Rafique Ahmed Shaikh
(Member)

Rafique
29/12/21

Rehmatullah Baloch
(Member)

Rehmatullah
29/12/21

Engr. Bahadur Shah
(Member)

Engr. Bahadur Shah

Saif Ullah Chattha
(Member/Vice Chairman)

Saif Ullah Chattha
4.2.2021

Tauseef H. Farooqi
(Chairman)

Did not attend - away



Puneet
10.02.21

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

GENERATION LICENCE

No. SGC/152/2021

In exercise of the powers conferred upon the National Electric Power Regulatory Authority (NEPRA) under Section 14B of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997/Amendment Act, 2018, the Authority hereby grants a Generation Licence to:

MUGHAL ENERGY LIMITED

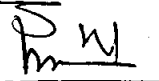
Incorporated Under Section-32
of the Companies Ordinance 1984 (XLVII of 1984) Having Corporate
Universal Identification No. 0080938 dated August 29, 2012

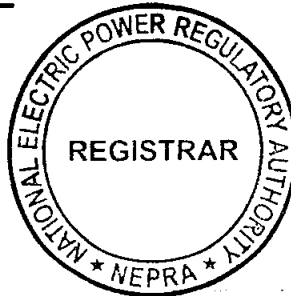
**for its Imported/local Coal based Generation Facility/Thermal
Power Plant Located at 17-Km on Lahore-Sheikhupura Road,
Tehsil & District Sheikhupura in the Province of Punjab**

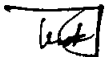
(Total Installed Capacity: 55.00 MW Gross)

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

Given under my hand this on 10th day of February Two
Thousand & Twenty-One and expires on 30th day of June Two
Thousand & Fifty-Three.


10 02 21
Registrar



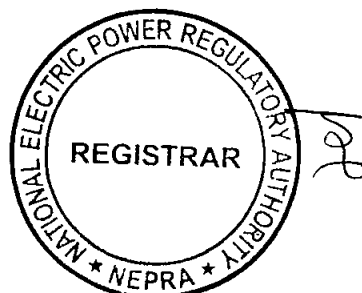




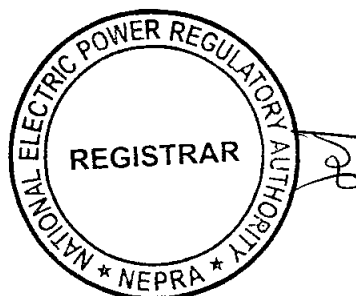
Article-1 **Definitions**

1.1 In this licence

- (a). "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 as amended or replaced from time to time;
- (b). "Applicable Documents" mean the Act, the rules and regulations framed by the Authority under the Act, any documents or instruments issued or determinations made by the Authority under any of the foregoing or pursuant to the exercise of its powers under the Act, the Grid Code, the applicable Distribution Code, the Commercial Code if any, or the documents or instruments made by the Licensee pursuant to its generation licence, in each case of a binding nature applicable to the Licensee or, where applicable, to its affiliates and to which the Licensee or any of its affiliates may be subject;
- (c). "Applicable Law" means all the Applicable Documents;
- (d). "Authority" means the National Electric Power Regulatory Authority constituted under Section-3 of the Act;
- (e). "Bulk Power Consumer (BPC)" means a consumer which purchases or receives electric power, at one premises, in an amount of one (01) megawatt or more or in such other amount and voltage level and with such other characteristics as the Authority may specify and the Authority may specify different amounts and voltage levels and with such other characteristics for different areas;



- (f). "Bus Bar" means a system of conductors in the generation facility/Thermal Power Plant of the Licensee on which the electric power from all the generators is collected for supplying to the Power Purchaser;
- (g). "Commercial Code" means the commercial code under National Electric Power Regulatory Authority (Market Operator Registration, Standards and Procedure) Rules, 2015 as amended or replaced from time to time;
- (h). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility/Thermal Power Plant of the Licensee is Commissioned;
- (i). "Commissioned" means the successful completion of commissioning of the generation facility/Thermal Power Plant for continuous operation and despatch to the Power Purchaser;
- (j). "Distribution Code" means the distribution code prepared by the concerned XW-DISCO and approved by the Authority, as may be revised from time to time with necessary approval of the Authority;
- (k). "Generation Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000 as amended or replaced from time to time;
- (l). "Grid Code" means the grid code prepared and revised from time to time by NTDC with necessary approval of the Authority;
- (m). "Licence" means this licence granted to the Licensee for its generation facility/Thermal Power Plant;

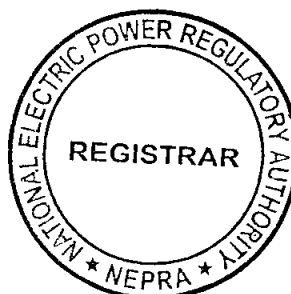


- (n). "Licensee" means **Mughal Energy Limited** or its successors or permitted assigns;
- (o). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time;
- (p). "Power Purchaser" means the BPC which will be purchasing electric power from the Licensee, pursuant to a PPA for procurement of electric power;
- (q). "Power Purchase Agreement-PPA" 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/Thermal Power Plant, as may be amended by the parties thereto from time to time;
- (r). "Thermal Power Plant" means a generation facility used for production of electric power using fossil fuel";
- (s). "XW-DISCO" means an Ex-WAPDA distribution company engaged in the distribution of electric power".

1.2 The words and expressions used but not defined herein bear the meaning given thereto in the Act or Generation Rules and Licensing Regulations issued under the Act.

Article-2 **Applicability of Law**

This licence is issued subject to the provisions of the Applicable 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 functional specifications and other details specific to the generation facility/Thermal Power Plant of the Licensee are set out in Schedule-I of this licence.

3.2 The net capacity of the generation facility/Thermal Power Plant of the Licensee is set out in Schedule-II of this licence. The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its generation facility/Thermal Power Plant before its COD.

Article-4

Term of Licence

4.1 This licence shall become effective from the date of its issuance and will have a term of thirty (30) years from the COD of the generation facility/ Thermal Power Plant of the Licensee subject to Section 14-B of the Act.

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

Article-5

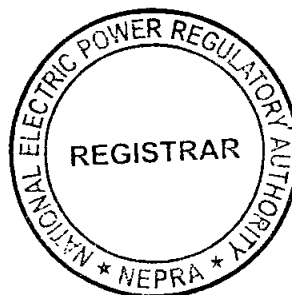
Licence fee

The Licensee shall pay to the Authority the licence fee as stipulated in the National Electric Power Regulatory Authority (Fees) Rules, 2002 as amended or replaced from time to time.

Article-6

Tariff

The Licensee is allowed to charge the Power Purchaser/BPC a mutually agreed tariff.



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.

7.2 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.

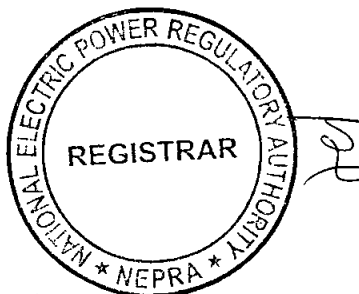
7.3 Any variation or modification in the above-mentioned contracts for allowing the parties thereto to participate wholly or partially in the Competitive Trading Arrangement shall be subject to mutual agreement of the parties thereto and such terms and conditions as may be approved by the Authority.

Article-8 **Maintenance of Records**

For the purpose of sub-rule(1) of Rule-19 of the Generation 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 or replaced from time to time.



Article-10
Compliance with Environmental & Safety Standards

10.1 The generation facility/Thermal Power Plant of the Licensee shall comply with the environmental and safety standards as may be prescribed by the relevant competent authority 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/Thermal Power Plant is in conformity with required environmental standards as prescribed by the relevant competent authority.

Article-11
Power off take Point and Voltage

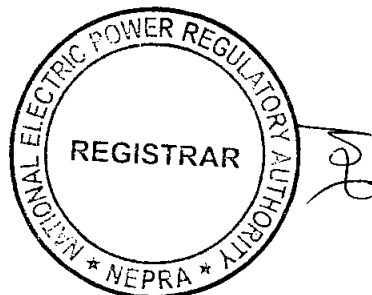
The Licensee shall deliver the electric energy to the Power Purchaser at the outgoing Bus Bar of its generation facility/ Thermal Power Plant. The Licensee shall be responsible for the up-gradation (step up) of generation voltage up to the required dispersal voltage level.

Article-12
Provision of Information

In accordance with provisions of Section-44 of the Act, the Licensee shall be obligated to provide the required information in any form as desired by the Authority without any exception.

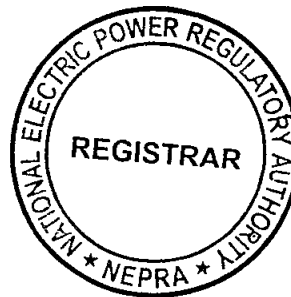
Article-13
Compliance with Applicable Law

The Licensee shall comply with the provisions of the Applicable Law, guidelines, directions and prohibitory orders of the Authority as issued from time to time.



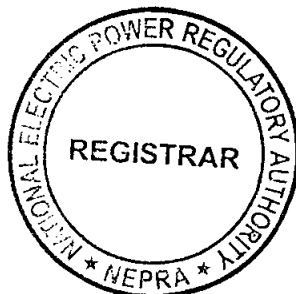
Article-14
Corporate Social Responsibility

The Licensee shall provide the descriptive as well as monetary disclosure of its activities pertaining to corporate social responsibility (CSR) on an annual basis.

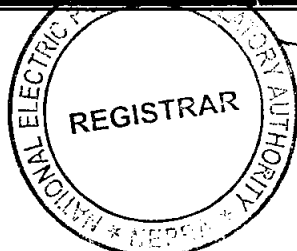
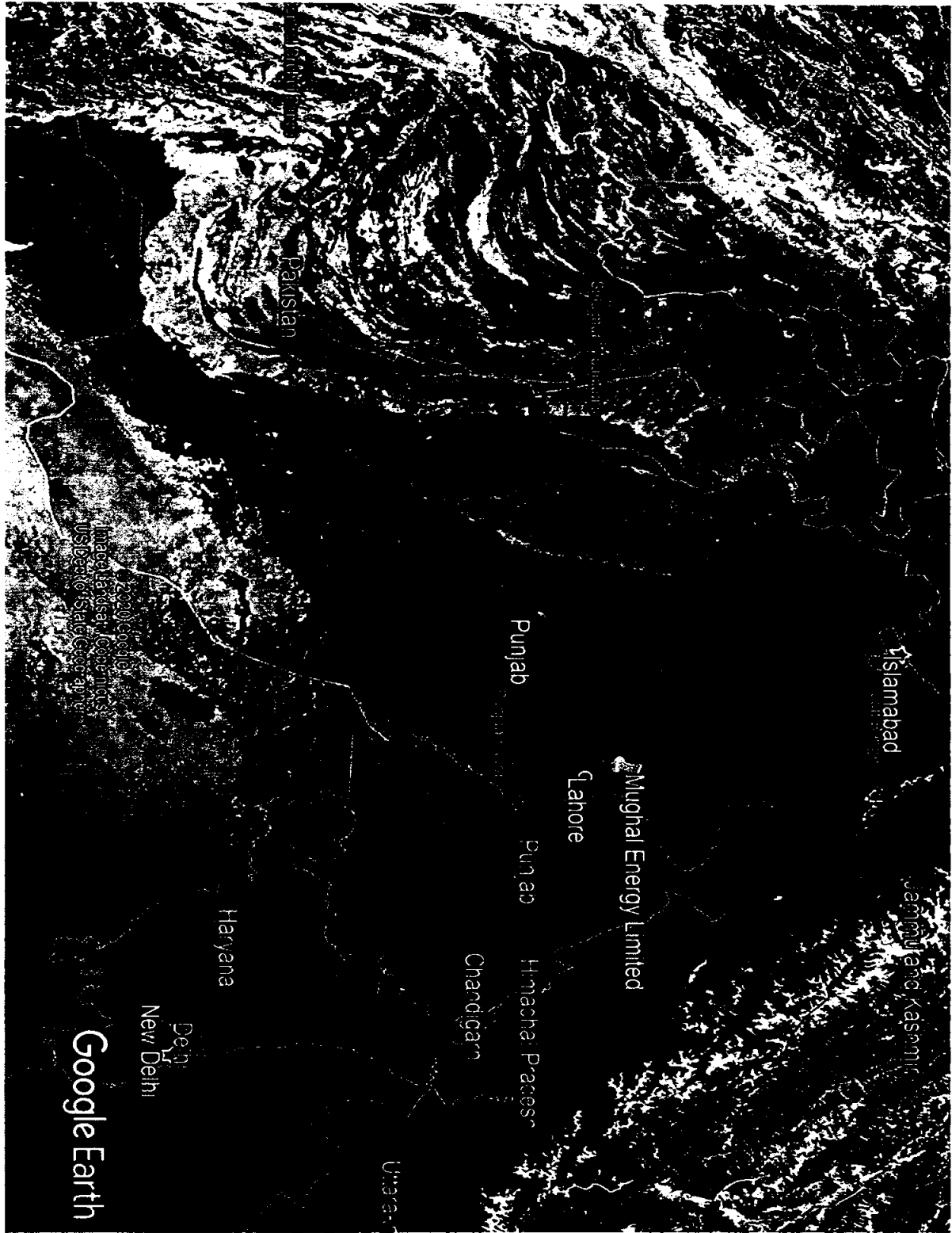


SCHEDULE-I

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.



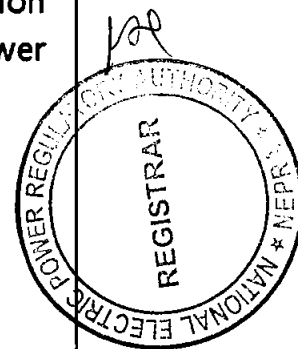
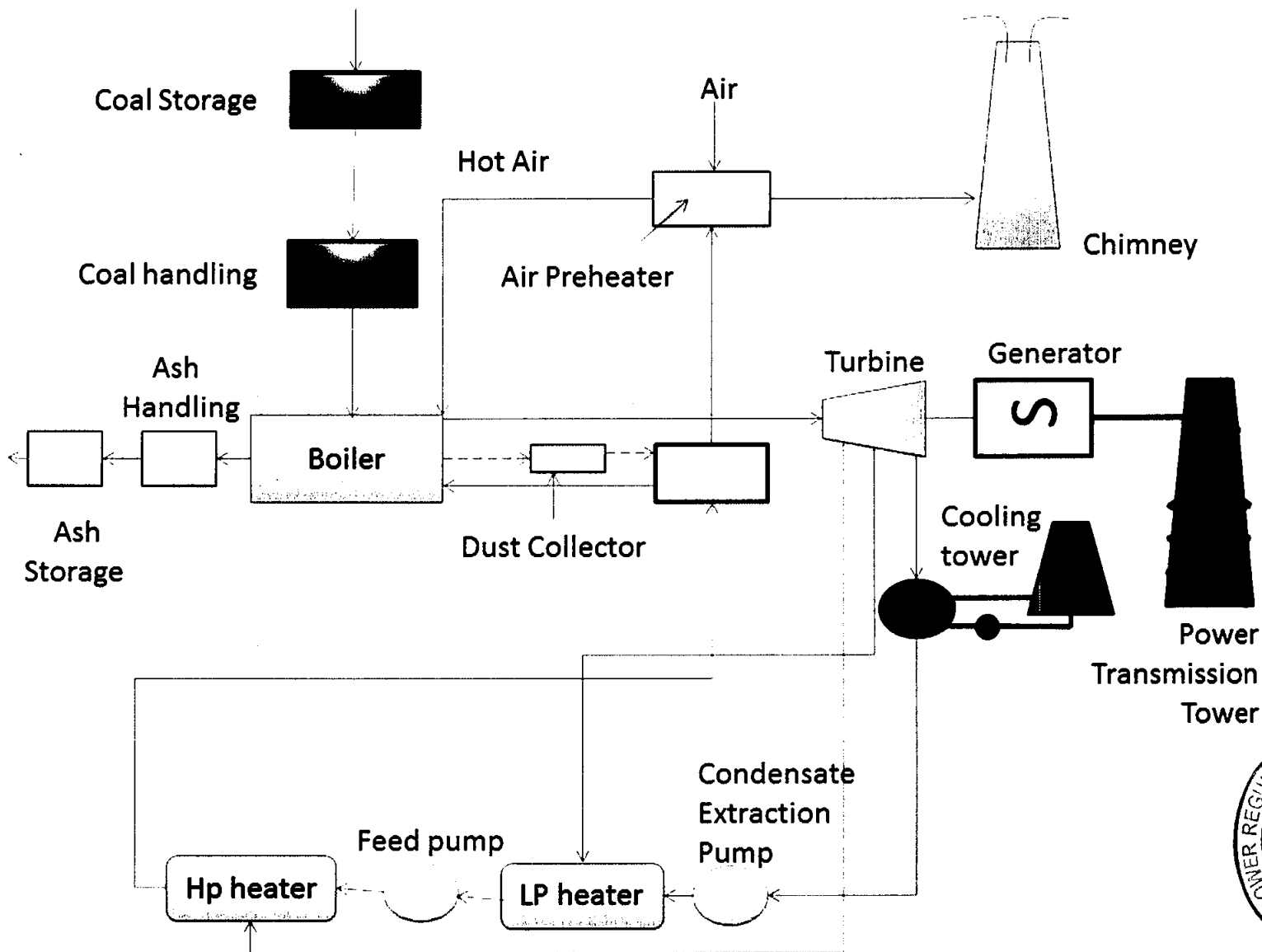
Location of the
Generation Facility/Thermal Power Plant
of the Licensee on Map of Province of Punjab



**Location of the
Generation Facility/Thermal Power Plant
of the Licensee**



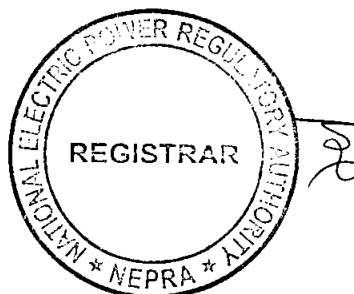
**Layout of the
Generation Facility/ Thermal Power Plant
of the Licensee**



Interconnection Arrangement for
Dispersal of Power from the Generation Facility/ Thermal Power
Plant of the Licensee

The electric power generated from the Generation Facility/ Thermal Power Plant of the Licensee/MEL shall only be delivered/supplied to different Bulk Power Consumers [BPC(s)].

(2). The details pertaining to the BPC(s), supply arrangement and other relating information is provided in the subsequent description of this Schedule. Any change in the said, shall be communicated to the Authority in due course of time.



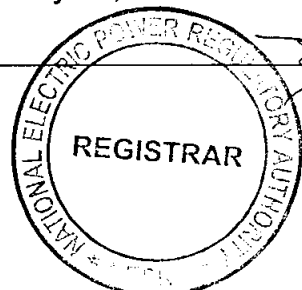
Detail of
Information Pertaining to the Company/Licensee and Its
Generation Facility/Thermal Power Plant/

(A). General Information

(i).	Name of the Company/ Licensee	Mughal Energy Limited
(ii).	Registered/Business Office of the Company	31 Shadman -1 Colony, Lahore, Pakistan
(iii).	Location of the Generation Facility/Thermal Power Plant	17 KM Sheikhupura Road, Lahore
(iv).	Type of Generation Facility/Thermal Power Plant	Thermal Generation Facility

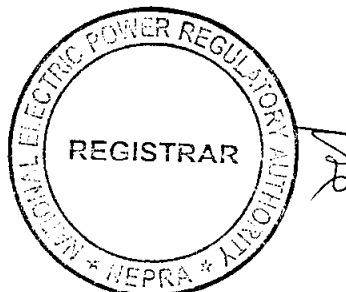
(B). Plant Configuration

(i).	Installed Capacity/ Size the Generation Facility/ Coal Power Plant	55.00 MW	
(ii).	Type of Technology of the Generation Facility/ Coal Power Plant	Circulating Fluidized Bed Boiler (Subcritical Steam Parameters) and Steam Turbine Thermal Generation Facility	
(iii).	Number of Units/Size (MW)	1 x 55.00 MW	
(iv).	Unit Make/Model & Year of Manufacture	Steam Turbine	Simens/General Electric/Alstom/Skodda Or Equivalent
		Boiler	Foster Wheeler/Andritz Or Equivalent
(v).	Expected COD of the Generation Facility/ Coal Power Plant	July 01, 2023	



(C). Fuel/Raw Material Details

(i).	Primary Fuel	Imported Coal or Local Coal of equivalent specification	
(ii).	Start-Up Fuel	RFO	
(iii).	Fuel Source for each of the above (i.e. Imported/Indigenous)	Primary Fuel	Start-Up Fuel
		Imported Sub-Bituminous Coal from the countries surrounding Indian Ocean, i.e. Indonesia, South Africa, Botswana or Australia, etc./Local Coal within the country from any available source	Indigenous/Imported
(iv).	Fuel Supplier for each of the above	Primary Fuel	Start-Up Fuel
		Will be provided later	Shell Pakistan/Pakistan State Oil/Any other OMC Company
(v).	Supply Arrangement for each of the above Fuels	Primary Fuel	Start-Up Fuel
		Trucks/ Conveyors/ Stacker	Through Oil Tankers
(vi).	No of Storage Bunkers/Tanks/ Open Yard	Primary Fuel	Start-Up Fuel
		Primary coal yard Secondary coal yard	1
(vii).	Storage Capacity of Sheds/Open yard/ Tanks Etc.	Primary Fuel	Start-Up Fuel
		2 x 9000 Ton	500 Tons
(ix).	Gross Storage	Primary Fuel	Start-Up Fuel
		18000 Ton	500 Tons



(D). Emission Values

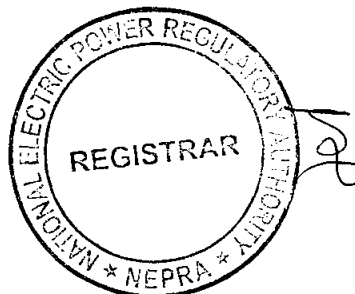
		Primary Fuel	Start-Up Fuel
(i).	SO _x (mg/Nm ³)	1700 mg/Nm ³	As Per National Standards (NEQs)
(ii).	NO _x (mg/Nm ³)	1200 mg/Nm ³	-do-
(iii).	CO ₂ (%)	1000 mg/Nm ³	-do-
(iv).	CO (mg/Nm ³)	800 mg/Nm ³	-do-
(v).	PM ₁₀	500 mg/Nm ³	-do-

(E). Cooling System

(i).	Cooling Water Source/Cycle	Wells at the site will be used as a source of the raw water for the generation facility/Thermal Power Plant/Closed Cycle
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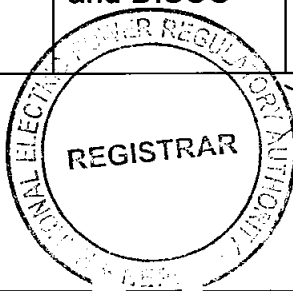
(F). Plant Characteristics

(i).	Generation Voltage	11 Kv
(ii).	Frequency	50 Hz
(iii).	Power Factor	0.85
(iv).	Automatic Generation Control (AGC) (MW control is the general practice)	No
(v).	Ramping Rate (MW/min)	Will be provided later
(vi).	Time required to Synchronize to Grid (Hrs.)	Will be provided later



Information
Regarding Consumer(s)/ BPC(s) to be Supplied by
the Licensee i.e. MEL

(i).	Location of Consumers/Bulk Power Consumer(s)/BPC(S)	BPC-I	BPC-II	BPC-III	
		Mughal Iron and Steel Industries Limited-MI&SIL	Mughal Steel Metallurgies Corporation Limited-MSMCL	Indus Steel Mills Corporation (Pvt.) Limited-ISMCL	
(ii).	Location of consumers (distance and/or identity of premises)	17-Km on Lahore-Sheikhupura Road Tehsil & District Sheikhupura in the Province of Punjab			
(iii).	Contracted Capacity	BPC-I	BPC-II	BPC-III	
		25 MW	05 MW	05 MW	
(iv).	Specify Whether:				
	(a).	The consumer is an Associate undertaking of the Licensee - If yes, specify percentage ownership of equity;	MEL and the BPC(S) are associated companies of the Mughal Steel Limited.		
	(b).	There are common directorships:	Currently, there are some common directors of MEL and BPC(S).		
	(c).	Either can exercise influence or control over the other.	Yes		
(v).	Specify nature of contractual Relationship				
	(a).	Between the consumer and the Licensee	MEL will construct, own and operate the generation facility and provide electric power to BPC(S).		
	(b).	Consumer and DISCO	BPC-I	BPC-II	BPC-III
			B-4 Consumer	B-3 Consumer	B-3 Consumer

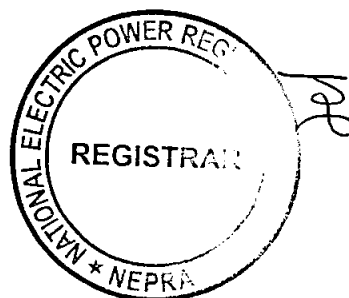


Information
Regarding Distribution Network for Supply of
Electric Power to BPC(S)

Sr. No.	Description	BPC-I	BPC-II	BPC-III
(i).	No. of Feeders	Three (03)	One (01)	One (01)
(ii).	Length of Each Feeder (Meter)	100-150 m	100-150 m	100-150 m
(iii).	Length of Each Feeder to each unit of the Licensee and its each Bulk Power Consumer			
(iv).	In respect of all the Feeders, describe the property (streets, farms, Agri land, etc.) through, under or over which they pass right up to the premises of customer, whether they cross-over.	The 11 kV feeders supplying power to the BPC(S) are mainly located on private property however, all the feeders crosses a public property of road.		
(v).	Whether owned by Licensee, Consumer or DISCO-(deal with each Feeder Separately)			
	(a).	If owned by DISCO, particulars of contractual arrangement	The Feeders/Underground cables will be constructed by the Licensee or BPC(S) and will be handed over to DISCO either through sale or lease as decided mutually by the parties (i.e. Licensee/MEL, BPC(S) and LESCO)	
	(b).	Operation and maintenance responsibility for each feeder	Mutually agreed terms and conditions to be decided/agreed by the parties (i.e. Licensee/MEL, BPC(S) and LESCO)	
(vi).	Whether connection with network of DISCO exists (whether active or not)- If	BPC-I	BPC-II	BPC-III

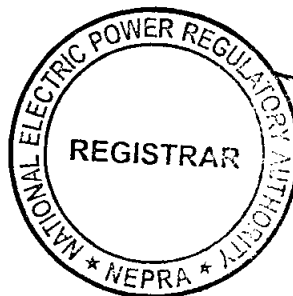


	yes, provide details of connection arrangements (both technical and contractual)	Yes	Yes	Yes
(vii).	Any other network information deemed relevant for disclosure to or consideration of the Authority.	NA	NA	NA



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

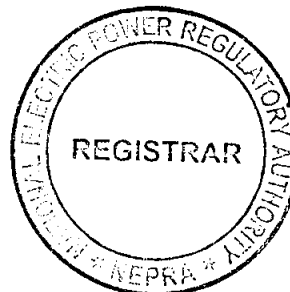


SCHEDULE-II

(1).	Total Gross Installed Capacity of the Generation Facility/Coal Power Plant	55.00 MW
(2).	De-rated Capacity of the Generation Facility/Coal Power Plant at Reference Site Conditions	55.00 MW
(3).	Auxiliary Consumption of the Generation Facility/ Coal Power Plant	06.00 MW
(4).	Total Net Capacity of the Generation Facility/ Coal Power Plant at Reference Site Condition	49.00 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 procedures contained in the Power Purchase Agreement (PPA) or the Applicable Document(s).



Authorization of
Authority Granted to Mughal Energy Limited (MEL) for
Supplying to Bulk Power Consumers


Incorporated Under Section-32
of the Companies Ordinance 1984 (XLVII of 1984) Having Corporate
Universal Identification No. 0080938 dated August 29, 2012

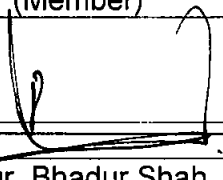
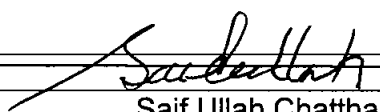
GENERATION LICENCE No. SGC/152/2021
For
Sale to Bulk Power Consumer(s)

Pursuant to Section-22 of the Act and Rule-7 of the Generation Rules, the
Authority hereby authorizes the MEL/(the Licensee) to engage in Second-Tier
Supply business, limited to the consumer(s) as follows:-

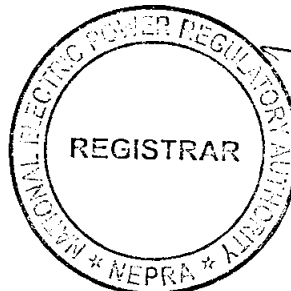
- (1). Mughal Iron and Steel Industries Limited-MI&SIL;
- (2). Mughal Steel Metallurgies Corporation Limited-
MSMCL;
- (3). Indus Steel Mills Corporation (Pvt.) Limited-ISMCP.

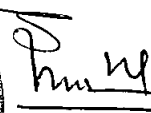
Authority

	
Engr. Rafique Ahmad Sheikh	Rehmatullah Baloch
(Member)	(Member)

	
Engr. Bhadur Shah	Saif Ullah Chattha
(Member)	(Member)/Vice Chairman

Did Not Attend-Away
Engr. Tauseef Hassan Farooqi
(Chairman)




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Second Tier Supply
Authorization
for the Bulk Power Purchaser