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.nepra.org.pk, E-mail: registrar@nepra.org.pk

No. NEPRA/DL/LAT-06/ 22666-74 November 05, 2019

Mr. Rehan Hamid,
Chief Executive Officer,
Sindh Transmission & Dispatch Company (Private) Limited,
3rd Floor, State Life Building-3,
Dr. Zia-uddin Ahmed Road, Karachi.
Contact No. 021-99207129.

Subject: **Grant of Transmission Licence to act as Provincial Grid Company.**
Licence Application No. LAT-06
Sindh Transmission & Dispatch Company (Private) Limited (ST&DCPL)

Reference: ST&DCPL's application submitted vide letter received on April 11, 2019.

Enclosed please find herewith Transmission Licence No. PGCL/01/2019 granted by National Electric Power Regulatory Authority (NEPRA) to Sindh Transmission & Dispatch Company (Private) Limited (ST&DCPL) to act as Provincial Grid Company for the province of Sindh, pursuant to Section 18A 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 Transmission Licence No. for future correspondence.

Enclosure: Transmission Licence
(PGCL/01/2019)

REGISTRAR

05.11.19

(Syed Safeer Hussain)

Copy to:

1. Secretary, Ministry of Energy, Power Division, A-Block, Pak Secretariat, Islamabad.
2. Managing Director, NTDC, 414-WAPDA House, Lahore.
3. Chief Executive Officer, CPPA-G, ENERCON Building, Sector G-5/2, Islamabad.
4. Chief Executive Officer, K Electric Limited (KEL), KE House, 39 B, Main Sunset Boulevard, DHA Phase-II, Karachi.
5. Chief Executive Officer, Hyderabad Electric Supply Company Limited (HESCO), WAPDA Offices Complex, Hussainabad, Hyderabad.
6. Chief Executive Officer, Sukkur Electric Supply Company (SEPCO), Old Thermal Power Station, Sukkur.
7. Director General, Environment Protection Department, Government of Sindh, Complex Plot No. ST-2/1, Korangi Industrial Area, Karachi.
8. The Secretary, Energy Department, Government of Sindh, 3rd Floor, State Life Building No. 3, Opposite CM Secretariat, Karachi.

National Electric Power Regulatory Authority (NEPRA)

Determination of the Authority in the Matter of Application of Sindh Transmission & Despatch Company (Pvt.) Limited for the Grant of Licence for Provincial Grid Company

November 05, 2019
Case No. LAT-06

(A). Filing of Application

(i). Sindh Transmission & Despatch Company (Pvt.) Limited (ST&DCPL) submitted an application on April 11, 2019 for the grant of Transmission Licence as a Provincial Grid Company (PGC) in terms of Section-18A of Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act").

(ii). The Registrar examined the submitted application to confirm its compliance with the relevant provisions of the NEPRA Act and found the same compliant with. The Registrar submitted the application for the consideration of the Authority to decide the admission of the same or otherwise. The Authority considered the matter and found the form and content of the application in compliance with above mentioned provisions of the NEPRA Act and admitted the application on April 17, 2019 for consideration of the grant of the licence to ST&DCPL as a PGC. The Authority also approved a notice of admission to be published in the press for inviting comments of general public, interested and affected persons in the matter. Accordingly, the said notices were published in one (01) Urdu and one (01) English newspapers on April 24, 2019.

(iii). In addition to the above, the Authority also approved a list of stakeholders for seeking their comments for assistance of the Authority in the matter. Accordingly, letters were sent to different stakeholders as per the approved list on April 24, 2019, soliciting their comments for assistance of the Authority.

(B). Comments of Stakeholders

(i). In reply to the above, comments were received from six (06) stakeholders which included Engro Energy Limited (EEL), Energy Department Govt. of Sindh (EDGoS), Central Power Purchasing Agency (Guarantee) Limited (CPPAGL), Franklin Law Associates (FLA), Energy Wing Ministry of Planning, Development & Reform Govt. of Pakistan (EWMPGoP) and National Transmission and Despatch Company Limited (NTDC). The salient points of the comments offered by the said stakeholders are summarized below: -

(a). EEL submitted that it believes that economic prosperity of the country is dependent on the competitiveness of our industry requiring increased efficiencies and lower cost of production. Electricity is one of the input cost for the industry and the industry should have an option to have it from the least cost generation facility/utility of its choice. The Gharo-Keti Bandar corridor in the province of Sindh possesses a high Renewable Energy (RE) resource of wind and solar and provides an affordable alternative of electric power for the surrounding industries. The RE resources serve as an attractive option due to their declining price however, with insufficient offtake capacities in the existing network its exploitation is being hampered. In this regard, PGC can be used to complement the National Grid and may serve as a carrier facility for the power generation facilities willing to supply cheaper electricity from the untapped RE resources in the southern belt through bilateral agreements. In view of the said, EEL is in favor of granting a licence to ST&DCPL to act as a PGC;

(b). EDGoS stated that the Government of Sindh (GoS) has incorporated ST&DCPL with a mandate to construct, own, operate & maintain transmission lines on commercial basis. It has now emerged as PGC for the province under Section-18A of the NEPRA Act. The province of Sindh is blessed with numerous

resources for generation of electricity including wind, solar and coal. The wind corridor of Jhimpir has a potential of about 50,000MW but is only contributing 1,185 MW to the National Grid due to transmission line constraints. In a recent meeting of the Federal Energy Minister with its provincial counterpart, the said issue was discussed and it was agreed that for proper evacuation of electric power in the area, the Provincial Govt. in collaboration with NTDC establish the required evacuation facilities. Accordingly, it is envisaged that ST&DCPL as PGC will (a). construct a new transmission network in the wind corridor to harness potential of generation of power through wind; (b). complement the capacity of the National Grid and provide carrier/wheeling facility to potential investors; (c). employ a combination of macro and micro grid model for initial supply of electricity to bulk power consumers in the industrial area of Nooriabad, K Electric Limited (KEL) and others. The proposed arrangement may require construction of 500 KV transmission lines and junction grids in Nooriabad, Gharo, Gadap and Maymar areas as well as in the area served by other utilities for supply of electricity. It is believed that the grant of transmission licence to ST&DCPL would entail landmark activities including (a). construction of new transmission lines of 132kV and 220kV in Jhimpir area for evacuation of power from Wind Power Plants (WPPs), (b). construction of new grid stations of 132kV and 220kV in Jhimpir area for evacuation of power from Wind Power Plants (WPPs); (c). perform the operation and maintenance of all the associated transmission lines and grid stations in Jhimpir area; (d). supply power to pumping station-1 & pumping station-2 of KWSB K-IV Power Project by constructing Grid Stations of 132 kV each and 01 Double Circuit (D/C) transmission line of 132 kV. (e). perform operation and maintenance of K-IV power project; (f). perform operation and maintenance of Nooriabad/KEL transmission line. GoS therefore supports the petition of ST&DCPL for PGC in the national interest to resolve

the issues of evacuation of power in the jurisdiction of the province of Sindh amicably in collaboration with NTDC in the light of NEPRA Act.

(c). CPPAGL remarked that the required Eligibility Criteria for PGC has not been prescribed by the Federal Govt. as stipulated in Section-18A of the NEPRA Act. According to the said provision, only one licence for the PGC is to be issued for each province therefore, the selection and licensing of such entity should follow a competitive process. It is apprised that by virtue of Article 142(a) of the Constitution and in context of the Eighteenth Amendment, the Parliament and Federal Government are exclusively empowered to (respectively) legislate and exercise executive authority over matters relating to "Electricity". Whereas, Article 157 of the Constitution makes specific provision with respect to "Electricity". According to the Article 157 of the Constitution which makes specific provision with respect to the authority and discretion of a Provincial Government that "a Government of a Province may construct power houses and grid stations and lay transmission lines for use within in the Province". This infers that the construction of power infrastructure and facilities lies within the discretion of the province until it is not connected to the National Grid. As the applicant intends to transmit power to the existing grids of HESCO and SEPCO, it seems obvious that the electricity through the PGC would be injected in the pool of CPPAGL which is a company of the Government of Pakistan to the National Grid. This calls for an interaction of the Provincial Government with the federal entities. According to the Federal Legislative List, Electricity is listed at Entry No. 4 in Part-II and falls within the constitutional domain of the CCI. Subject to the Constitution and the law, decisions of the CCI may inform the interaction between the Federal and Provincial Governments with respect to matters relating to Electricity. Decisions of CCI of 2011 and 2016, Decision of ECC

of 2015 and Power Policy of 2015 endorse this fact. For instance, according to the Power Policy 2015, for any project that is connected to the National Grid "Consent from the Power Purchaser (NTDC/CPPA or DISCO) shall be obtained by Provincial Authority or Project Sponsor". It could be concluded that the function of power procurement by the federal entities is regulated by, *inter alia*, standards, prescriptions and requirements of the applicable legal and regulatory framework. Power procurement by the federal entities therefore, may additionally only be undertaken upon satisfaction of such other applicable requirements. It is further elaborated that the applicant is targeting Keti Bander-Gharo-Jhimpir wind corridor and intend to construct a new transmission network in the wind corridor to harness the potential 50,000MW of capacity from wind power generation. As per Grid Code (Planning Code PC4), NTDC is mandated to prepare Indicative Generation Capacity Expansion Plan (IGCEP) considering the demand and supply position of the country. Hence, prior to any commitment with the new projects, endorsement of site, size and technology and timing should be aligned with IGCEP prepared by NTDC and Renewable Energy Policy under discussion with Ministry of Energy (Power Division). The IGCEP has been submitted to NEPRA by NTDC. Therefore, any decision regarding induction of wind power in future, its quantum and timing should be strictly in line with the IGCEP. It is further suggested that subsequent studies should be done to evaluate which zones are most feasible to bring the wind power at the minimum levelized cost and maximum firm capacity contribution to the grid. It is further highlighted that the applicant is intending to supply electricity from the wind corridor having potential of 50,000MW, mostly to the bulk power consumers of KEL, HESCO and SEPCO. Here it is worth to mention that the current market share of one (01) MW or above BPCs all across the country is approximately 16% only of the total energy demand. Therefore, the idea of selling

50,000MW to BPCs does not seems realistic even considering many years from now. It could be assumed that since the 500kV line by PGC carries bulk power, so it is deemed to be connected to the National Grid. The construction of such line cannot be considered a matter of only the provincial interest because it is interconnecting with the National Grid and therefore it is subject to the federal interest, which implies that it has to be centrally planned. The National Grid Planning is within the competency of NTDC and as a central planner, NTDC in coordination with DISCOs is responsible for carrying out in short, medium and long terms planning including transmission expansion planning. Therefore, it must be evaluated if the transmission network proposed to be constructed by the applicant is actually required under the Transmission System Expansion Plan of NTDC/DISCOs or not as per the planning criteria defined in the Grid Code and the Distribution Code. It is further highlighted that, as the generators constructed pursuant to IGCEP are subjected to central dispatch by NPCC as per the Section-14B of the NEPRA Act and the Grid Code, the operation of the line and the dispatch of the generators would be carried out by the System Operator therefore, the PGC would have no control over the dispatch of such generators within its territory;

(d). FLA believes that the economic prosperity of the country depends on need of its industry to be competitive locally as well as internationally with the businesses increased efficiencies and lower production costs. Electricity serves as one of the-significant input cost, elements to the overall cost of production in any competitive sector/environment and this determines the basis of ability of any manufacturing facility to compete. The industries, as a result, should ideally possess an option to procure electric units from the least cost generation utility of its choice. The Gharo- Keti Bandar corridor in Sindh has potential for high renewable resources such as wind and solar, and

provides opportunity for such affordable alternatives of electric power for the surrounding industries. The renewable resources serve as an attractive option at their ever declining price point; however, the varying wind speed and differing solar irradiation makes these resources location/site specific and require safe and reliable transmission network for appropriate dispatch of electrical units to the end consumer. With insufficient and inefficient offtake facilities in the existing network adversely affecting development and exploitation of natural resources by the developers, a provincial grid company can come in to lay down transmission facilities to complement the national grid and serve as a carrier facility for power generation facilities willing to supply cheaper electric units from the untapped renewable resources in the southern belt through the bilateral PPAs. Therefore, FLA is in favor of granting a transmission licence to ST&DCPL for provincial grid to set up its own transmission network and serve the bulk power consumers in the bilateral market with affordable and reliable electricity;

(e). EWMPGoP while commenting in the matter supported the establishment of PGC however, submitted that the authority should carefully look into the manpower capacity of ST&DCPL. It was stated that the details submitted in the petition shows that personnel when appointed in ST&DCPL were short of required experience. It is apprehended that similar situation may occur in case of PGC. The quality of pre-feasibility study attached with petition is not up to mark specially the section dealing with Human Resources its job description templates which are not standardized and the CVs attached. As given in pre-feasibility study section "Hiring of ST&DCPL office staff and O&M Staff" at page 145 it is stated that "...O&M would be outsourced and below are some of the advantages of outsourcing..." however no advantages are shown. Further, NTDC transmission plan submitted to the Authority may be consulted so that there may

be no duplication in proposed transmission lines and grid stations;

(f). NTDC submitted that it is sending its preliminary objections/comments in the matter including (a). Eligibility Criteria. The application of ST&DCPL is liable to be rejected solely on the ground that the same fails to meet the basic eligibility criteria that is required under the law. Regulations 3 (h) of National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999 (the "Regulations") provides ..."(h) in case of a license for a new facility or system, a feasibility report in respect of the project, specifying in detail: (i). The type, technology, model, technical details and design of the facilities proposed to be constructed, developed or installed; (ii). The expected life of the facility or the system; (iii). The location of the facility or the system, or the territory with outer boundaries within which the facilities or the system is proposed to be installed and operated by the licensee, along with maps and plans' and (iv). The type and details of the services proposed to be provided." The Application under consideration does not provide the mandatory feasibility report specifying the details as required under the above mentioned Regulations. (b). Also, the Application of ST&DCPL fails to comply with the criteria provided under Regulation 3(g) (b) of the Regulations which requires the transmission licence applications to provide the type, technology, model, technical details and design of the facilities proposed to be acquired, constructed, developed or installed, a territorial map of the service area proposed to be covered and particulars in respect of the availability, sources, rates and evidence of commitments from the sources of electric power. No such information and specifications have been provided by the Applicant. (c). Without prejudice to the above, it may pertinently be mentioned that under Section-18A of the NEPRA Act, the Federal Government

shall prescribe eligibility criteria for grant of license as a PGC. As of now, such eligibility criteria have not been prescribed by the Federal Government. In the absence of the prescribed eligibility criteria, it is imperative that the licence for PGC cannot be issued to any applicant. Therefore, it is suggested that the matter of granting appropriate licence and the completion of the prerequisites associated with the process of granting such licence should be actively pursued with the concerned authorities. It is apprised that by virtue of Article 142(a) of the Constitution and in context of the Eighteenth Amendment, the Parliament and Federal Government are exclusively empowered to (respectively) legislate and exercise executive authority over matters relating to 'Electricity'. Whereas, Article 157 of the Constitution makes specific provision with respect to "Electricity". According to the Article 157 of the Constitution which makes specific provision with respect to the authority and discretion of a Provincial Government that "a Government of a Province may construct power houses and grid stations and lay transmission lines for use within the Province". This infers that the construction of power infrastructure and facilities lies within the discretion of the province until it is not connected to the National Grid. As the applicant intends to transmit power to the existing grids of HESCO and SEPCO, it seems obvious that the electricity through the PGC will be injected into the National Grid. This calls for an interaction of the Provincial Government with the Federal entities. According to the Federal Legislative List, Electricity is listed as Entry No. 4 in Part II of the said list and falls within the constitutional domain of the CCI. Subject to the Constitution and the law, decisions of the CCI may inform the interaction between the Federal and Provincial Governments with respect to matters relating to Electricity. Decisions of CCI of 2011 and 2016, Decision of ECC of 2015 and Power Policy 2015 endorse this fact. For instance, according to the Power Policy 2015, for any project that is connected to the National Grid "...Consent from

the Power Purchase (NTDC/CPPA or DISCO) shall be obtained by Provincial Authority or Project Sponsor...". It could be concluded that the function of power procurement by the federal entities is regulated by, *inter alia*, standards, prescriptions and requirements of the applicable legal and regulatory framework. Power procurement by the Federal entities therefore, may additionally only be undertaken upon satisfaction of such other applicable requirements. Without prejudice to the foregoing, it may not be out of place to mention here that NTDC has already been awarded the service territory of whole Pakistan except Karachi (area of KEL) pursuant to the exclusive Transmission License granted by the Authority to NTDC, issued on 31st December 2002 for a period of 30 years and therefore the same is valid upto December 30, 2032. Granting of a parallel transmission licence to any company owned by the provincial Government will lead to a conflicting situation and will render the exclusivity of the transmission licence of NTDC redundant. It is mentioned that only one licence shall be issued for each province at one time. Just like the NTDC, the PGC will also be the service provider and an important stakeholder in the power sector. Therefore, the selection and licensing of such entity should follow a comprehensive procedure and may involve competition among several applicants or any other prudent selection criteria to compete for the license rather than applying for a licence on first come first serve basis. Without prejudice to the above, it is further elaborated that the applicant is targeting Keti Bander-Gharo-Jhimpir wind corridor and intend to construct a new transmission network in the wind corridor to harness the potential 50,000MW of capacity from wind power generation. As per Grid Code (Planning Code PC4), NTDC is mandated to prepare IGCEP considering the demand and supply position of the country. Hence, prior to any commitment with the new projects, endorsement of site, size and technology and timing should be aligned with IGCEP prepared by NTDC and RE Policy

under discussion with Ministry of Energy (Power Division). The IGCEP has been submitted to NEPRA by NTDC. Therefore, any decision regarding induction of wind power in future, its quantum and timings should be strictly in line with the IGCEP. It could be assumed that since the 500kV line by PGC carries bulk power, so it is deemed to be connected to the National Grid. Construction of such line cannot be considered a matter of only the provincial interest because it is interconnecting with the National Grid and therefore it is subject to the federal interest, which implies that it has to be centrally planned. The National Grid Planning is within the competency of NTDC and as a central planner, NTDC in coordination with DISCOs is responsible for carrying out in short, medium and long terms planning including transmission expansion planning. Therefore, it must be evaluated if the transmission network proposed to be constructed by the applicant is actually required under the Transmission System Expansion Plan of NTDC/DISCOs or not as per the planning criteria defined in the Grid Code and the Distribution Code. Moreover, the action taken by one grid operator may contradict/overlap the actions of other operator thus requiring comprehensively documented and communicated SOPs for all the stakeholders. Similarly, either one or both operators may attribute the responsibility of partial or full grid system collapses to each other. It appears that ST&DCPL, subject to the grant of license, will be required to develop 500 kV network and 500 kV junction grids to transmit power to K-Electric grid, HESCO & SEPCO grid and other bulk buyers. Since 500 & 220 kV network in whole Pakistan alongwith Generation & Transmission Planning (except Karachi) is a mandate of NTDC, therefore sharing this mandate with ST&DCPL, will result in a big conflict from both Planning aspect & Operational aspect. The conflict will be a deviation from Integrated Power Planning and shall lead to heavy undue investments in the country from both Generation & Transmission aspects consequently adversely

affecting optimal system performance. It is further highlighted that, as the Generators constructed pursuant to IGCEP are subjected to central dispatch by NPCC as per the Section-14B of the NEPRA Act and the Grid Code, the operation of the line and the dispatch of the generators would be carried out by the System Operator. Therefore, the provincial grid company would have no control over the dispatch of such generators within its territory. Moreover, it is pointed out that as per Section-18A of the NEPRA Act, ST&DCPL can operate only as Transmission Company where as the despatch function which includes stable and economic transfer of power from generator to consumer in view of reliability and economy which is a specific function of despatch center has not been mentioned in the amendment. Hence ST&DCPL cannot be granted to operate as transmission and despatch company. Without Prejudice to the above and specifically responding to wind potential in Keti Bander- Gharo-Jhimphir, it is submitted that catering of huge wind potential in the Gharo-Jhimpir corridor does not solely depend on construction of transmission facilities. Tapping wind power to accommodate in the generation mix of the country is much more difficult than any other type of power source. In general, wind power has an average of 31%-35% plant factor with an additional criticality of intermittency. An in-depth understanding and expertise of power system is the fundamental prerequisite for evacuation of heavy quantum of wind power (as well as variable RE). It appears that major activities pertaining to development of Sindh Wind Corridor include inviting the investors, constructing the interconnections and wheeling to National Grid, this understanding is perhaps too limited. Certain other aspects carry important value such as detailed demand patterns both area-wise and country-wide, hourly basis and yearly basis, base load, intermediate load and peak load analysis on one hand and the generation type, location and availability on daily and yearly basis. Over and above to this, reinforcement to the transmission

infrastructure and cost of balancing reserve are other critical aspects for wind power penetration to the National Grid. In our opinion, following are the functions involved for optimal wind power utilization: - (i). Demand forecast of the interconnected grid for each time frame; (ii). Least Cost Generation Expansion Plan over a horizon of at least ten years; (iii). Latest and approved Renewable Policy wherein targets for renewable are set; (iv) Transmission reinforcement studies in addition to Grid Interconnection Studies (GIS); (v). State-of-the-Art SCADA and forecasting functions at the central control room of the country level Dispatch Centre; (vi). Reserve balancing and corresponding system dynamics studies to observe critical power system parameters (such as frequency, angle and voltage) violations from the regulatory instrument i.e. Grid Code limits during wind intermittency; (vii). System-wide dynamic stability studies (on PSSE simulator or a similar tool) to recommend FACTS device at critical locations of the national grid; (viii). Inducting more and more wind energy into the grid raises two important issues i.e. low inertia of the network and high cost of balancing reserve. Hence, exploring external supports from other networks in order to address these two issues is essential. International markets and system operators are focusing on these issues as a challenging problem. NTDC, having vast experience is already engaged in all the facets of transmission business, has developed least cost generation expansion plan showing optimum renewable share upto year 2040 using WASP simulation tools. The plan has already been submitted to the Authority for approval. However, NTDC has also engaged international consultant through World Bank funding, to assist in reviewing, updating and developing the least cost generation expansion plan which would incorporate targets of RE Policy 2019, plan horizon 2019-2047, with the application of a highly advanced and customized simulation tool known as "PLEXOS". Further other related studies, to address the unique

nature of wind power, like RE Zoning and Locational Studies are currently in progress. Consequently, optimal harnessing of wind power falls under the domain of national level planning; requires high-level frame work and cannot be placed as a standalone activity under a smaller grid level. NTDC intends to urge and submit further grounds at or before the hearing of this Application and reserves its right to such extent. The Respondent also seeks an opportunity of hearing in the subject matter which may graciously be granted by the Authority in the interest of justice. In view of the above preliminary submissions, the Respondent (NTDC) does not support the petition of ST&DCPL for issuance/grant of provincial transmission license. Therefore, it is humbly prayed that the Application under reply may kindly be rejected.

(ii). The Authority considered the above comments of the stakeholders and decided to hold a public hearing in the matter at its head office at Islamabad. Further, the Authority also formulated issues of hearing for the proposed public hearing.

(C). Public Hearing

(i). In consideration of the above, a public notice was published in the press on August 09, 2019 informing the relevant stakeholders, interested, affected parties/persons and the general public informing about the public hearing and their participation. Further, letters were also sent on August 09, 2019 to different Ministries, their attached departments and representative organizations about the public hearing and their participation thereof for the issues of hearing as detailed below:-

(a). The eligibility criteria prescribed in the NEPRA Act for the grant of Licence as a PGC includes (i). Minimum solvency requirements; and (ii). Minimum technical and human resource requirements. What is the status of the ST&DCPL in terms of the said criteria/benchmarks?

(b). What is the Experience of the Applicant (i.e. Sindh Transmission & Despatch Company Limited-ST&DCPL) and its Management

in the Electric Power Sector, especially in the Transmission Line Business to justify itself as PGC?

(c). Whether ST&DCPL for its proposed scope as a PGC has carried out any proper bankable feasibility study for the project to ascertain the exact scope of work being envisaged?

(d). The proposed scope of the PGC includes laying of various type of Transmission lines of 132 KV, 220 KV and 500 KV. Does ST&DCPL possess the required capability to design, construct own and operate Transmission Lines having voltage level of 220 KV and 500 KV?

(e). Whether the envisaged scope of ST&DCPL as a PGC is consistent/in compliant with the scope of the proposed Integrated Generation Capacity Expansion Plan or not?

(f). NTDC and HESCO has been constructing Transmission Lines in the province of Sindh for dispersal of electric power from the generation facilities set up in the province of Sindh. Has any coordination been made to avoid any duplication of work?

(g). Right of Way (ROW) is a precious resource and considering the fact that most of the resources for generation of power are located in the south of the country in the Province of Sindh. What measures have been taken up with NTDC and HESCO to ensure that ROW is utilized in an optimum manner?

(h). Whether, the Applicant/ST&DCPL has the required capability, expertise and other relevant skills to acquire the required ROW for the construction of the proposed Transmission Line as stated above?

(i). What is the ability of the Applicant/ST&DCPL and its management to raise the required funds for the construction of the proposed Transmission Lines connecting various generation

facilities being constructed in the Province for wheeling the power to various locations?

(j). In terms of Section-18B of the NEPRA Act, the Provincial Grid Company is required to operate and provide safe and reliable transmission services on a non-discriminatory basis. Does ST&DCPL understand that it will be able to adhere to the said provision or otherwise?

(k). According to Section-18B of the NEPRA Act, a PGC is required to fulfil a number of requirements for providing transmission and inter-connection services to the National Grid Company and to others. Does ST&DCPL understand that it will be able to adhere to the various provisions or otherwise?

(l). Whether the infrastructure to be developed by ST&DCPL as a PGC will be subject to non-discriminatory open access and centralized system operation and dispatch by the system operator i.e. NPCC or NTDC as National Grid Company as the case may be?

(m). What type of infrastructure will be deployed by ST&DCPL as a PGC for the purpose of coordination, interconnection services and connecting its facilities with National Grid Company?

(n). Will ST&DCPL as a PGC adhere to the performance standards laid down by the Authority for transmission of electric power, including safety, health and environmental protection instructions issued by the Authority or any Governmental agency?

(o). Whether the grant of Licence to ST&DCPL as PGC will result in infringement of the rights of NTDC under Section-17(2) of the NEPRA Act as National Grid Company or not?

(p). If the Authority approves the grant of Licence to ST&DCPL as a PGC, what should be the term of the proposed Licence and its

justification for the same? and

(q). Whether ST&DCPL for its proposed Licence for PGC has obtained necessary/requisite authorizations from the relevant Government agencies including but not limited to Safety, Health and Environment?

(ii). The public hearing in the matter was held on September 04, 2019 at main office of NEPRA at Islamabad wherein representatives of different organizations participated. These included the representatives of ST&DCPL, CPPAGL, NTDC, Government of Punjab (GoPb). Minster for Energy Mr. Imtiaz Sheikh also attended and gave a detailed point of view of the GoS in the matter. The team of ST&DCPL gave a detailed presentation on the background of the case and also elaborated the point of the company on different issues frame in the matter.

(iii). About the issue of the eligibility criteria prescribed in the NEPRA Act for the grant of License as a PGC, it was submitted that GoS has mandated ST&DCPL to act as a PGC on behalf of Province of Sindh as per Section-18A and 18B of the NEPRA Act. In view of the said, GoS fully supports and guarantees the ST&DCPL and has provided the Letter for Guarantee of Minimum Solvency Requirements which has already been submitted with the application of PGC to the Authority. Further, ST&DCPL has submitted a detailed Operations & Maintenance Manual along with Company's Human Resource Manual in which detailed resumes of ST&DCPLs Board of Directors and its current senior and middle management and initial future HR requirements for PGC have been foresighted and factored. Further, ST&DCPL will enhance its technical and HR capacity by hiring suitable professionals from open market to meet future infrastructure plans of ST&DCPL from time to time.

(iv). About the experience of ST&DCPL and its management in the electric power sector, especially in the transmission line business to justify itself as PGC, it was stated that ST&DCPL has recently successfully constructed and completed the first ever Provincial Transmission Line i.e. 132 kV Double Circuit Transmission Line of 95.74 Km length for evacuation of 100 MW electric power from Sindh Nooriabad Power Company (Pvt.) Limited (SNPC & SNPC-II) to K-Electric KDA Grid Station Karachi. Since commissioning, ST&DCPL is operating and maintaining transmission

line to the satisfaction of its stakeholders. No precedence exists amongst provinces throughout Pakistan except province of Sindh through the ST&DCPL and this is hailed as a pioneer and benchmark project. The outclass performance of ST&DCPL Transmission Line can be judged from the fact that NEPRA has allowed 1.5% non-penalized maintenance outages which translates to annual wheeling non-penalized outages of 131.4 hours out of which the Company has consumed only 61.4 hours i.e. 47% during the first year of successful operation from COD 18th January 2018 and 15.5 hours outage consumed during the first 06 months of 2019 till 31st July, 2019. It was stated that the Technical team of ST&DCPL has vast experience of transmission line business. The cumulative experience in the power industry of our top managers is 72 years out of which 26 years is only in the field of High Voltage Overhead and Underground Transmission Lines in addition to AIS/GIS High Voltage Substations. Once the PGC license is granted, additional highly qualified human resources with relevant industry experience will be hired. Being a self-sustained commercial entity, ST&DCPL could never afford to compromise on the capabilities of its human resources. Further, ST&DCPL has developed a very comprehensive Operations & Maintenance system which compliments the performance of the transmission line.

(v). Regarding carrying out any proper bankable feasibility study for the project to ascertain the exact scope of work being envisaged by ST&DCPL as PGC, it was stated that although proper bankable feasibility study is not a legal requirement for the grant of PGC license under amended NEPRA Act. ST&DCPL has already carried out the detailed feasibility study for its already commissioned project. Further, ST&DCPL is also in the process of carrying of a detailed feasibility reports for its various projects, details of which will come in later slides. Keeping in view the potential of electricity generation through wind and solar power plants in Sindh, load requirement of the province viz-a-viz existing transmission constraints, the GoS under the provisions of the law has mandated the ST&DCPL to construct the transmission system in the province, not only for its own use but to help the National Grid Company and to power projects being established for the purpose of supplying electricity to the National Grid. Detailed feasibility studies on project to project basis wherever required will be carried out by PGC. The current transmission line of ST&DCPL is already in revenue earning phase and we being a commercial entity opt for only the bankable projects. The pre-feasibility studies of the Jhimpir wind corridor shown in our

Operation Manual is of conceptual level and the comprehensive/exact feasibility study of the Jhimpir wind corridor project(s) can only be ascertained in the presence and collaboration of all the stakeholders i.e. NTDC, CPPAG, relevant DISCOs and KEL etc. as the case may be after the grant of the Licence for PGC. For instance and by way of example the first project of KWSB K-IV which is envisaged to come under the umbrella of PGC. Its scope is the construction of 02 Grid Stations and Transmission line for the evacuation of power from 50MW Power Plant in IPP mode to pumping station 1 & 2 of KWSB Greater Karachi Bulk Water Supply Scheme K-IV Project Phase-1, 260 MGD at Kinjhar Lake. GoS has approved the project considering its bankability on estimated feasibility and priority in view of the public interest. The Public Private Partnership (PPP) Policy Board of GoS has also granted the following approval *"The PPP Policy Board approved laying of transmission lines through ST&DCPL and to explore funding structure for financing of transmission lines through ST&DCPL for K-IV Power project"*. The technical consultant has already been hired through open transparent competitive bidding for the design, optimal line route survey, plan & profile, preparation of BOQs and tender documents, cost estimates of the project, construction supervision till the completion of the project.

(vi). Regarding the capability of ST&DCPL to design, construct own and operate Transmission Lines having voltage level of 220 KV and 500 KV, it was submitted that ST&DCPL has already initiated the process of conducting Proposed System Studies for reliable power network in the province of Sindh from which the future infrastructure projects will emerge and will be identified & planned on short term and long term basis. At present, ST&DCPL has successfully proven the capability for the design, construction, ownership and operation of the 132 KV Double Circuit Transmission Line. Being the first project of high voltage transmission line of 132 KV, ST&DCPL had no feather in its cap at that time, but with the induction of an efficient management having relevant experience, made the project a great success. Same model will be followed in the case of PGC. Similarly, keeping in view the first success, the 220KV and 500KV transmission network can be established wherever and whenever it is required, through different business models i.e. Consulting Engineering Firm having sufficient experience for designing transmission line projects in Public Private Partnership (PPP) mode with accredited EPC experience for the construction of transmission facilities. Further, Joint Venture (JV) mode with strong

financial partners for the construction of transmission facilities with the assistance of International Financial Institutions (i.e. World Bank, Asian Development Bank, USAID etc.) can be considered for financing of feasibility studies and detailed design for construction and operation transmission facilities through reputable Engineering Firms to act as Owner's Engineer for supervision of the construction and operation activities transmission facilities. All of the above options will be availed by strictly adhering to a transparent and open competitive environment as per rules and policy as well as guidelines or regulations of NEPRA amended from time to time. Upon grant of the licence for PGC, the company/ST&DCPL will soon float a tender for the standardization of specifications of materials for transmission Lines & grid stations.

(vii). About the envisaged scope of ST&DCPL of PGC to be consistent/in compliant with the scope of the proposed IGCEP, it was stated that the said plan proposed by NTDC is at the proposal stage and is to be approved from relevant Government forums for it to be declared as National Policy or Plan under the NEPRA Act more particularly by the CCI. Nevertheless, the ST&DCPL intends to engage with the NTDC on this account. However, if it becomes a Policy or Plan, ST&DCPL is legally bound to implement and will take-up the evacuation responsibility of those generation projects which are in the scope of IGCEP in consultation with NTDC. Proposal to construct the transmission lines in the wind corridor of Sindh has already been discussed with NTDC (Minutes already issued to NEPRA). The wind and solar power projects which are the cheapest sources are facing evacuation problems. Further, the development of new solar projects are facing delays causing huge losses to National Exchequer, as well as electricity consumer, which in turn is affecting the industrial development adversely. Therefore, ST&DCPL will be helping the National Grid Company by providing transmission facilities. Sindh Government has identified three Special Economic Zones in the province of Sindh viz. Port Qasim, Dhabeji and Khairpur. ST&DCPL can also fulfil their evacuation needs if a future need of power infrastructure is required or any other interconnection pertaining to any business to business sale/purchase of power under approval of tariff by NEPRA. The potential of the power projects, greenfield, brownfield, existing or future, using indigenous resources, is immense within the Province of Sindh, which can only be tapped if transmission network, safe and reliable, can deliver electricity at the affordable prices which is the aim and objective of the PGC. PGC shall offer Power Projects in Public,

Private and PPP modes set up within the Province of Sindh for the right of evacuation, wheeling and transmission in an expeditions and cost effective manner. The Power projects established under the power policy of 1994 as well as HUBCO are going to be retired in the near future. These projects were established on BOO basis and ST&DCPL can provide evacuation service to these power projects/plants if these power projects will have any plan to supply electricity under competitive regime.

(viii). Regarding coordination with NTDC and HESCO to avoid any duplication of work of Transmission Lines and Grid, it was submitted that PGC intends to work in collaboration with all stakeholders i.e. NTDC, CPPA-G, relevant DISCOs, KEL etc. (wherever necessary) and not in isolated mode. PGC intends to synergize the capacity of NTDC & HESCO wherever required. It may be relevant to highlight that power sector envisaged under the NEPRA Amendment Act, 2018, is quite liberal as on one hand it allowed PGC and on the other hand it removes the exclusivity of distribution companies. While undertaking any project that has to be connected to National Grid or distribution network of HESCO, it cannot be done without the approval of grid interconnection by NTDC or HESCO/SEPCO respectively. Hence there is no chance of any duplication of work. PGC seeks to facilitate the evacuation and transmission of power and energy from the power projects established within the Province of Sindh and in this manner support the efforts of the Federal Government and the GoS to strengthen the transmission capacities of the transmission networks to fully utilize the generation capacities and avoid idle capacity charges. ST&DCPL through various newspaper advertisements/written media has always communicated to the stakeholders/general public to work in collaborative mode with NTDC.

(ix). Regarding the issue of optimum use of ROW and coordination with stakeholders including NTDC and HESCO, it was submitted that the issue will emerge once the project is conceived and entered into planning phase. As already intimated that PGC intends to work in collaborative mode with all stakeholders' viz. government land, private land, therefore the ROW issue for any particular project can only be finalized once the project location is identified. ST&DCPL and NTDC shall work in tandem and support each other efforts for obtainment of ROW issues since ST&DCPL has more effective outreach and local influence being a provincial entity. To demonstrate effectiveness of provincial entities when provincial issues are

confronted case in point is acquisition of land for NTDC's Jhimpir-I Grid Station. When the provincial departments took ownership, the long standing matter got resolved within one month. NTDC and HESCO are not the land owners rather ROW and easement is assigned and leased by Board of Revenue, GoS through its Land Utilization Department. PGC will have an advantage wherever Transmission Line facilities are to be provided for industrial growth projects to implement projects that are part of provincial development plans. However private land is also acquired by GoS as per the Land Acquisition Act 1894. ST&DCPL has recently proven its capability and expertise for the settlement of ROW issues faced during the construction of 132 KV double circuit transmission line of 95.74 Km length from SNPC to K-Electric KDA Grid Karachi. Recently, in the case of on-going KWSB K-IV Project, Land Utilization department has principally sanctioned the required ROW for 50MW Power Plant, 132KV Transmission Line and Grid Station to KWSB, however it is in documentation process.

(x). With regards to the required capability, expertise and other relevant skills to acquire the required ROW for the construction of the proposed Transmission Lines and raising funds for the projects, it was explained that ST&DCPL being a commercial entity has the capability to raise the required funds from various commercial banks, loans from GoS or can also opt for Joint Venture (JV) where the private investor will be the equity partner of ST&DCPL. All these models have been approved by the NEPRA Authority from time to time in respect of various projects. However the cost of obtaining funds will adhere to the benchmark value of spread as per NEPRA's regulations. Since the GoS is the guarantor of ST&DCPL it is expected that the cost of the borrowing and access to the loans shall be favorable to ST&DCPL and ultimately in the interest of the consumers. For the current project of 132 KV double circuit transmission line, ST&DCPL acquired loan from GoS and Sindh Energy Holding Company (Pvt.) Limited and has also started repayment of loans. Many Governmental organizations of certain countries have also shown their interests to support GoS. Preliminary meetings are held time to time with GoS officials and decision makers. Grant of PGC Licence to ST&DCPL shall enhance the business confidence & interest of the potential parties and financiers. ST&DCPL is always fully supported by EDGoS for all is funding needs. Moreover, as and when business of

ST&DCPL expands as a PGC, it can also arrange funding as is done by NTDC and other power sector entities.

(xi). About the adherence to the provisions of Section-18B of the NEPRA Act, it was stated that ST&DCPL is fully aware of Section-18B of NEPRA Act and will adhere to the following responsibilities as a PGC on a non-discriminatory basis, provide transmission and inter-connection services to the national grid company and to others, wherever necessary, at such rates, charges and terms and conditions as the Authority may determine; purchase inter-connection service from the national grid company as may be necessary and to connect its facilities to the national transmission grid at the rates, charges and terms and conditions determined by the Authority; follow the performance standards laid down by the Authority for transmission of electric power, including safety, health and environmental protection instructions issued by the Authority or any governmental agency; make available to general public the tariff specifying the approved rates, charges and other terms and conditions for transmission services; not levy any rate or charge or impose any condition for transmission of electric power which has not been approved by the Authority as a tariff; not cause a division or any associated undertaking to engage in generation and distribution; and develop, maintain and publicly make available, an investment program for satisfying its service obligations and acquiring and selling its assets. Non-discriminatory open access is mandatory as per NEPRA's (Wheeling of Electric Power) Regulations, 2016 which ST&DCPL has to comply in anyway. ST&DCPL will adhere to all the necessary requirements for providing transmission and interconnection services to the national grid company and others. ST&DCPL has successfully provided interconnection facility for its current transmission line project at both the ends i.e. SNPC Power Generation Complex & K-Electric KDA Grid, as per the interconnection study carried out by a professional consultant.

(xii). The PGC will follow the policy of open access subject to the condition that it shall be technically and commercially viable. ST&DCPL has already a SCADA Engineer resource on board keeping in view the future requirements of the centralized system operation as our network will grow further. Wherever required, PGC will work in coordination with National Grid Company and the National Power Control Center. Grid Stations & Transmission Lines along with SCADA system and Control Centre.

ST&DCPL will strictly adhere to the NEPRA approved Grid Code and complete NTDC specifications will be followed in order to harmonize the national grid system, wherever necessary. ST&DCPL intends to work in coordination with National Grid Company to support the power projects move on fast track as National Grid Company is already constrained and facing impediments leading to delays in evacuation of power from power projects in the Province of Sindh which is cause of major concern for the Federal Government and the GoS. The same has been identified by NEPRA in its State of Industry report, 2017. About the compliance of the various standards, it was explained that ST&DCPL as a PGC will strictly comply with the performance standards laid down by the Authority or any Governmental Agency.

(xiii). After amendment of NEPRA Act and the proposed electricity competitive market, all the existing applicable documents of NEPRA require review. The PGC will actively participate in the development of subordinate documents and follow the approved documents. The Sr. GM Technical of ST&DCPL possesses a professional diploma in Health, Safety & Environment (HSE) awarded by Pakistan Institute of Management (PIM) and a course of Institution of Occupational Safety & Health (IOSH). He conducts periodic training of Operations & Maintenance staff of ST&DCPL to ensure health & safety at all levels. Zero fatalities/ injuries throughout the current 132 KV Transmission Line project during the execution and operation and maintenance of the transmission line till date due to stringent monitoring of health & safety of the O&M staff. ST&DCPL being a PGC licensee seeks its first right to establish new transmission line network in the jurisdiction of Sindh in collaboration with NTDC to avoid duplication and overlapping of network. ST&DCPL is very well cognizant with the importance of National Grid. Each project will be planned and executed in coordination with NTDC, wherever required. Section-18A of the NEPRA Act enables, entitles and permits establishment of PGC and grant of licence thereto. ST&DCPL as a PGC will focus on new/distressed transmission line projects and therefore, rights of NTDC as per 17(2) will remain the same. PGC does not intend to interfere the current infrastructure of National Grid Company. It is pertinent to mention that under Article 157(2) of the Constitution of Islamic Republic of Pakistan, The Government of a Province may (a). to the extent electricity is supplied to that Province from the national grid, require supply to be made in bulk for transmission and distribution within the Province; (b). levy tax on consumption of electricity within

the Province; (c). construct power houses and grid stations and lay transmission lines for use within the Province; and (d). determine the tariff for distribution of electricity within the Province. Hence a Province enjoys premier right of construction, operation and wheeling of transmission and distribution facilities and electric power services as the case maybe within its territorial jurisdiction.

(xiv). About the term of the proposed Licence, it was submitted that generally the Transmission Line projects feasible lifecycle is 25-30 years therefore the initial term of PGC should be at-least of 30 years which is also at par with the current transmission line license of NTDC and SPTL of ST&DCPL.

(xv). The health and safety concerns if any as well as environmental reviews are addressed when the detailed studies are carried from project to project and no general authorization is required. However, individually companies opt for Health & Safety trainings for their individual staff. Likewise, periodic trainings are being provided to ST&DCPL staff as well. GoS has already mandated ST&DCPL to act as a PGC for the province of Sindh which has also been ratified by the Cabinet of Sindh, subject to the grant of PGC license by NEPRA. ST&DCPL is already ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 certified company which pertains to Quality Management System, Environmental Management System and Occupational Health & Safety standards respectively. The standards have now been updated to 2015 & 2018 standards, which are currently in the renewal phase.

(xvi). Once the project location is identified and finalized, authorization of Environmental Protection Agency, Sindh for environmental impact assessment will be conducted and no objection will be obtained from EPA, Sindh on Project to Project basis.

(D). Findings of the Authority

(i). The Authority has examined the submissions of ST&DCPL including the information provided with its application, comments of the stakeholders, rejoinder submitted, the relevant rules & regulations in the matter. The observations in the matter are explained in the following paragraphs.

(ii). The applicant i.e. ST&DCPL is an entity incorporated under Section-32 of the Companies Ordinance, 1984 (XLVII of 1984), having Corporate Universal Identification No. 0091407, dated January 07, 2015. It is a private limited company owned by the GoS having its registered/business office at 3rd floor, State Life Building, Dr. Ziauddin Ahmed Road, Karachi. According to the Memorandum of Association of the company, its main objectives, *inter alia,* includes acquiring, establishing, constructing, laying electrical transmission lines of high or low voltages. The existing portfolio of the company only consists of 132 KV D/C Transmission Lines connecting two generation facilities set by the GoS with system of KEL and the said, facility has been operational since February 2018. Now, the GoS plans to have its scope extended to act as a PGC as stipulated in Section-18A of the NEPRA Act.

(iii). In this regard, Section-18A of the NEPRA Act, *inter alia,* stipulates that the Authority may grant a licence authorizing a company owned by a Provincial Government to engage in the transmission of electric power within the territorial limits of such Province, provided that only one such licence shall be granted for each Province at any one time. In this regard, the said Section prescribes the eligibility criteria for grant of such licence which includes (a). minimum solvency requirements; and (b). minimum technical and human resource requirements. In terms of Section-2 (xxii) read with Section-18A(2) of the NEPRA Act, the said criteria is to be prescribed by the Federal Govt. through rules which are not in place at the moment. However, as explained above the GoS has confirmed to undertake that it will comply with the requirement of this eligibility criteria without any exception.

(iv). Further to the above, Section-18B of the NEPRA Act, prescribes the various responsibilities of PGC including (a). to operate and provide safe and reliable transmission services on a non-discriminatory basis, including to a Bulk-Power Consumer which proposes to become directly connected to its facilities. Apart from the said, additional responsibilities of PGC include (a). providing transmission and inter-connection services to the National Grid Company and to others, wherever necessary, at such rates, charges and terms and conditions as the Authority may determine; (b). purchasing inter-connection service from the national grid company as may be necessary and to connect its facilities to the national transmission grid at the rates, charges and terms and conditions determined by the Authority; (c). follow

the performance standards laid down by the Authority for transmission of electric power, including safety, health and environmental protection instructions issued by the Authority or any Governmental agency; (d). make available to the general public the tariff specifying the Authority's approved rates, charges and other terms and conditions for transmission services; (e). not levy any rate or charge or impose any condition for the transmission of electric power which has not been approved by the Authority as a tariff; (f). not cause a division or any associated undertaking to engage in generation and distribution; and (g). develop, maintain and publicly make available, with the prior approval of the Authority, an investment program for satisfying its service obligations and acquiring and selling its assets. In this regard, ST&DCPL has confirmed that all the above provisions shall be complied with.

(v). According to the information provided by the company, the scope for the PGC, *inter alia,* will include (i). Transmission lines for the Keti Bandar-Gharo-Jhimpir wind corridor; (ii) deploy a combination of major and micro transmission grid model for wind corridor for initial supply of electricity to bulk consumers in Nooriabad industrial area, KEL and other bulk buyers. The proposed model may comprise construction of 500 KV 4-bundle double circuit transmission line along wind corridor; 500 KV junction grid in Nooriabad and further transmission of power to the existing grids like KEL-Gharo grid, Gadap grid, Maymar grid or HESCO/SEPCO grids for onward power; (iii) Construction of new Transmission Lines of 132kV and 220kV in Jhimpir area for evacuation of power from Wind Power Plants (WPPs); (iv) Construction of new Grid Stations of 132kV and 220kV in Jhimpir area for evacuation of power from Wind Power Plants (WPPs); (v) Carrying out the operation and maintenance of all the associated transmission lines and grid stations in Jhimpir area; (vi) Construction of two (02) 132kV Grid Stations and one (01) 132kV Double Circuit Transmission Line of 25kms approximately to supply power to Pumping Station 1 & Pumping Station 2 of KWSB K-IV Power Project; (vii) Carrying out operation and maintenance of K-IV Power project; and (viii) Operation and maintenance of Nooriabad-KEL Transmission Line. In this regard, ST&DCPL has confirmed that proper feasibility study for each project will be carried out in consultation with all the relevant stakeholders.

(vi). ST&DCPL has also confirmed that the Initial Environmental Examination (IEE)/Environmental Impact Assessment (EIA) for each of the project will be carried out, once any of the project as explained above is carried out and necessary approval will be obtained. About the term of the proposed Transmission Licence of ST&DCPL as PGC, it is considered that transmission lines and other related infrastructure has a useful life of more than thirty (30) years. Regarding the tariff/Use of System Charges (UoSC) of ST&DCPL as PGC, it is hereby clarified that under Section-7(3)(a) of the NEPRA Act, determining tariff, rate and charges etc. is the sole prerogative of the Authority. In this regard, PGC will be required to submit a petition for tariff under the NEPRA Act, relevant rules and regulation.

(E). Grant of Licence for PGC

(i). The sustainable and affordable energy/electricity is a key prerequisite for socio-economic development of any country. In fact, the economic growth of any country is directly linked with the availability of safe, secure, reliable and cheaper supply of energy/electricity. In view of the said reasons, the Authority is of the considered opinion that for sustainable development, all types of resources especially the indigenous should be utilized for generation of electric power.

(ii). The Authority also considers that the ultimate dream of safe, secure, reliable and cheaper supply of energy/electricity for the end consumer can only be realized if the complete supply chain of electric power including generation, transmission, distribution and supply is complete and robust. In this regard, the Authority is of the considered opinion that in the previous years a lot of investment has been made in the generation segment of the supply chain of electric power however, the required level of investment in the remaining segments of transmission, distribution and supply could not be made. Resultantly, the full benefits of the addition in capacity in the generation segment has not been achieved. This is primarily due to the fact that transmission, distribution and supply segments are mainly controlled by the public sector and have their limitation to arrange the required amount of funds to carry out the expansion required in this regard. Lately, there has been a few instants whereby private sector entities and provincial Govt. have entered into these segments specially transmission business for which the Authority has granted Special Purpose Transmission Licences.

(iii). As explained in the preceding paras, in the last decade a considerable investment has been made in the generation segment of the country especially in the Renewable Energy (RE) sector of the country. The main RE source comprises of wind which is mainly concentrated in the Jhimpir and Gharo corridors located in the province of Sindh. Although great efforts are being made to enhance the share of wind in the overall energy mix of the country but availability of the require transmission and grid is proving to be handicap for addition of more wind energy. In this regard, the Authority has observed that even the existing wind based generation facilities are facing numerous issues pertaining to dispersal of electric power due to relatively weak infrastructure in the south of the country including curtailment of power during peak wind season. In view of the said, the Authority is of the considered opinion that there is huge scope for investment in the transmission segment of the electric power sector of the country.

(iv). The latest amendments in the NEPRA Act visualize development of a competitive and sustainable electric power market with special emphasis on the development of RE. The said amendments envisage a number of new concepts/licences including Captive Generation, PGC, Market Operator Licence, Electric Power Trader, Electric Power Supply, System Operator licence and Registration etc. In terms of Section-18A of the NEPRA Act, the Authority may grant a licence authorizing a company owned by a Provincial Government to engage in the transmission of electric power within the territorial limits of such Province.

(v). In accordance with the provisions of Section-18A, GoS through its 100% owned subsidiary in the name of ST&DCPL has approached the Authority for the grant of a Transmission Licence to act as a PGC. In this regard, the Authority has considered the submissions made by ST&DCPL in its application and comments of the stakeholders received in this regard. In view of the importance of the matter, the Authority conducted a Public Hearing in the matter duly discussing the various issues arising out of the application. The determination of the Authority on the various issues has been given in the following paragraphs.

(vi). The preliminary concern raised by CPPAGL and NTDC in its comments was the lack of the "Eligibility Criteria" which according to ~~NERR~~A Act is to be

prescribed by the Federal Govt. for the grant of PGC and includes (i). Minimum solvency requirements; and (ii). Minimum technical and human resource requirements. In this regard, the Authority considers that although Federal Govt. has not prescribed the said eligibility criteria but at the same the concerned Provincial Govt. has agreed that whatever the criteria will be prescribed, it shall be followed in letter and spirit. In view of the said, the Authority despite the absence of the eligibility criteria does not consider it as a prohibition for the grant of licence to ST&DCPL as a PGC.

(vii). About the experience of the applicant/ST&DCPL and its management in the Electric Power Sector, especially in the Transmission Line Business to justify itself as PGC, the Authority has observed that the current experience of ST&DCPL is restricted only to the owning, construction, operation and management of a 132 kV Nooriabad-KDA-33 Transmission line for which a Special Purpose Transmission Licence was granted. The Authority has observed that the scope of PGC is much wider as compared to SPTL. However, GoS through its Minister of Energy who participated in the Public Hearing has confirmed that ST&DCPL has given its confirmation that for the future projects, services of reputable local and international consultants will be engaged at all levels to make up for any lack of experience. In this regard, the Authority considers that deployment/hiring of consultants for the implementation of the large infrastructure projects is an industry norm which not only result in acquisition of required expertise but enhances the probability of the success of the projects. In view of the said, the Authority directs ST&DCPL to engage the services of the reputable consultants through a competitive and transparent process for the proposed scope being envisaged as PGC.

(viii). Regarding the bankable feasibility study for the projects envisaged to be carried out as PGC, the representatives of ST&DCPL during the Public Hearing, conceded that at present only the general scope has been identified and proper feasibility studies in this regard are still to be carried out. The Authority considers that before carrying out any project, a proper bankable feasibility study is a pre- requisite. Accordingly, the Authority directs ST&DCPL to prepare bankable feasibility study of each project through reputable consultants before taking any project in hand as PGC.

(ix). On the capability to design, construct own and operate Transmission Lines having voltage level of 220 KV and 500 KV, it was submitted that ST&DCPL does not possess the required capability but the same will be acquired by hiring suitable consultants and contractors as was done in the case of its earlier project of 132 kV transmission line connecting the Nooriabad power plants of GoS with the network of KEL. In this regard, the Authority considers it appropriate directing ST&DCPL before embarking on any project of 220 kV or 500 kV to not only engage experienced and reputable consultant but also have close liaison with NTDC so that the equipment of suitable specification are selected and the same are integrated with system of National Grid without causing any problem.

(x). About the envisaged scope of ST&DCPL as a PGC and its integration with the scope of the proposed IGCEP, ST&DCPL confirmed if the said plan is approved by the competent forum and becomes a binding document, it will be followed in letter and sprite. In this regard, the Authority considers that IGCEP is an offshoot of the Grid Code and is a binding document for ST&DCPL. Therefore, once the Authority approves it will be obligatory on the part of ST&DCPL to follow it in letter and spirit.

(xi). Regarding coordination with NTDC, HESCO and SEPCO, the company/ST&DCPL confirmed that before carrying out any work of construction of any Transmission Line or grid station as envisaged in the scope of PGC, proper coordination will be made to avoid any duplication of work. The Authority considers that coordination between all the above mentioned entities is very important and therefore directs ST&DCPL to have a proper coordination so that there is no duplication of effort and wastage of resources including best utilization of ROW for the future project in the province as well in the country.

(xii). As regards the capability, expertise and other relevant skills to acquire the required ROW and arranging of funds for the construction of the proposed Transmission Lines, ST&DCPL confirmed that it has all the requisite capability and expertise to arrange the ROW and approach commercial banks to arrange the necessary funds as had been done for its project already operational. The Authority considers that the submissions made are plausible and company has the requisite

capability and experience to acquire ROW and arranging debt for the proposed projects.

(xiii). On the issue of the terms and condition prescribed in Section-18B of the NEPRA Act for a PGC, the company has confirmed that all the said provisions will be adhered to. The Authority considers that submission of the ST&DCPL are plausible however, the company is directed to follow provisions of Section-18B of the NEPRA Act.

(xiv). As explained in the preceding paragraphs, ST&DCPL has confirmed that as a PGC it will adhere to the performance standards laid down by the Authority for transmission of electric power, including safety, health and environmental protection instructions issued by the Authority or any Governmental agency. Further, ST&DCPL also confirmed that it will obtain necessary/requisite authorizations from the relevant Government agencies including but not limited to safety, health and environment for any of the project that will be initiated. The Authority hereby directs ST&DCPL to follow the standard norms and good utility practices and seek proper approval from the relevant agencies when initiating any of the project envisaged in the scope of PGC.

(xv). In consideration of the above, the Authority hereby approves the grant of Licence to ST&DCPL as PGC for the province of Sindh setting the term of its licence to thirty (30) years as infrastructure to be laid under the proposed scheme of arrangement has a useful life of 30-50 years. As, ST&DCPL has consented to shorter term therefore, the Authority fixes the same to thirty (30) years.

(xvi). Regarding the tariff, it is hereby clarified that under Section-7(3)(a) of the NEPRA Act, determining tariff, rate and charges etc. is the sole prerogative of the Authority. Accordingly, the Authority directs ST&DCPL to file a petition for determining of Use of System Charge of its Transmission Line project(s) as stipulated in the relevant rules.

(xvii). In view of the above, the Authority hereby approves the grant of Transmission Licence to ST&DCPL to act as PGC for the province of Sindh on the terms and conditions set out in the licence annexed to this determination. The grant

of this licence will be subject to the provisions contained in the NEPRA Act, relevant rules, regulations framed thereunder and other applicable documents.

Authority:

Engr. Rafique Ahmed Shaikh
(Member)

Engr. Rehmatullah Baloch
(Member)

Saif Ullah Chattha
(Member)

Engr. Bahadur Shah
(Member/Vice Chairman)

Engr. Tauseef H. Farooqi
(Chairman)

National Electric Power Regulatory Authority (NEPRA)
Islamabad – Pakistan

TRANSMISSION LICENCE
PROVINCIAL GRID COMPANY
No. PGCL/01/2019

In exercise of the powers conferred under Section-18A of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the Authority hereby grants Transmission Licence as Provincial Grid Company to the company having particulars as follows:-

SINDH TRANSMISSION AND DESPATCH COMPANY (PVT.) LIMITED

Incorporated under Section-32 of
the Companies Ordinance, 1984 (XLVII of 1984) Having Corporate
Universal Identification No. 0091407, dated January 07, 2015

to engage in Transmission Business for its Different Projects to be Executed as a Provincial Grid Company in the Province of Sindh subject to and in accordance with the Articles of this Licence.

Given under my hand on 05th day of November Two Thousand & Nineteen and expires on 04th day of November Two Thousand & Forty-Nine.

Registrar 05 11 19

Article-1
Definitions

1.1 In this Licence unless there is anything repugnant in the subject or context:

(a). "**Act**" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997) as amended from time to time;

(b). "**Affiliate**" in relation to any person, means any person who owns or controls, or is owned or controlled by, or is under common ownership or control with, that person, and for the purpose of this definition: -

(i). "**control**" means the right, power or ability to influence or determine any decision in respect of the conduct of affairs of the person under control; and

(ii). "**ownership**" means the ownership or the right to own the shares or voting securities of the person owned;

(c). "**Ancillary Services**" means the services ancillary or incidental to the safe, reliable, stable and efficient availability and utilization of electrical energy and net capacity and include without limitation, the following, namely: -

(i). energy imbalance service;

(ii). spinning reserve service;

(iii). supplemental reserve service;

(iv). reactive supply and voltage control service; and

(v). regulation and frequency response service;

(d). "**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;

(e). "**Authority**" means the National Electric Power Regulatory Authority constituted under Section-3 of the Act;

(f). "**Commercial Code**" means the National Electric Power Regulatory Authority (Market Operator, Registration, Standards and Procedure) Rules, 2015 as amended or replaced from time to time;

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

(h). "**CPPAGL**" means the Central Power Purchasing Agency (Guarantee) Limited or any other entity created for the like purpose;

(i). "**Distribution Code**" means the distribution code prepared by the concerned XW-DISCO or KEL and approved by the Authority, as it may be revised from time to time with necessary approval of the Authority;

(j). "**Grid Code**" means the grid code prepared and revised from time to time by NTDC with necessary approval of the Authority;

(k). **"HESCO"** means Hyderabad Electric Supply Company Limited or its successors or permitted assigns;

(l). "**KEL**" means K Electric Limited or its successors or permitted assigns;

(m). "**Laws**" include all statutes, rules and regulations made pursuant thereto, judicial decisions, in each case as may be notified to the Licensee or its Affiliates;

(n). "**Licence**" means this transmission licence granted to the Licensee to act as Provincial Grid Company (PGC);

(o). "**Licensee**" means **Sindh Transmission & Dispatch Company (Pvt.) Limited or** its successors or permitted assigns;

(p). "**NTDC**" means National Transmission and Despatch Company Limited and its successors or permitted assigns which has granted a Transmission Licence (No. TL/01/2002, dated December 31, 2002 and amended/modified from time to time) under Section-17 and Section-7(4) of the Act;

(q). "**Public Sector Entity**" means any authority, agency, division or instrumentality of the Federal or Provincial Government or a local authority but does not include the Authority;

(r). "**Regulations**" means the National Electric Power Regulatory Authority regulations made under Section-47 of the Act;

(s). "**Rules**" means the National Electric Power Regulatory Authority rules made under Section-46 of the Act;

(t). **"SEPCO"** means Sukkur Electric Power Company Limited or its successors or permitted assigns;

(u). "**Transmission Business**" means the business of transmission of electric power carried on or to be carried on by the Licensee pursuant to and in accordance with the terms of this Licence in planning, development, construction and maintenance of the transmission facilities of the Licensee and operation of such facilities for the transmission of electric power including the inter-connection services;

(v). "**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 in the Rules.

Article-2
Grant of Licence

2.1 This Licence is granted to the Licensee in terms of Section-18A of the Act and the Applicable Documents to engage in the transmission of electric power within the territorial limits of the province of Sindh, as set out in Schedule-I to this Licence.

2.2 The details specific to the transmission facilities of the Licensee, including length of line, transmission line type (underground/overhead), connecting grids, technical limits, technical functional specifications and other information are set out in Schedule-II of this Licence.

Article-3
Licence fee

The Licensee shall pay to the Authority the Licence fee, in the amount, manner and time specified in the relevant rules or regulations as amended or replaced from time to time.

Article-4
Term and Renewal 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 said date. The Authority may renew this Licence for such further term as deemed appropriate subject to the provisions of the relevant regulations.

4.2 While considering renewal of Licence the Authority may keep in view the performance of the Licensee during the then expiring term and the interests of consumers and the electric power industry as a whole.

Article-5
Revocation and Suspension

5.1 The Authority may suspend or revoke this Licence upon the persistent failure of the Licensee to comply with the terms and conditions of the Licence as stipulated in Section-28 of the Act.

5.2 The Authority shall determine, on a case to case basis, the degree of recurrence of a specific breach of any term or condition of this Licence, provided that a breach shall be deemed to be recurring on a daily basis where the effects of breach are continuing beyond the time of breach and no measures for rectification thereof are undertaken by the Licensee to the satisfaction of the Authority.

5.3 Subject to the provisions of Sub Article-5.2 and 5.4, the occurrence of the following events shall constitute failure of the Licensee to comply with the terms and conditions of this Licence:-

(a). failure of the Licensee to pay the Licence fee when due;

(b). a breach by the Licensee of any of the provisions of the Applicable Documents which materially and adversely affects the standards, price and quality of service, the reliability and integrity of the transmission facilities, distribution systems or any generation facility, or the safe and efficient operation of the

electric power industry, save where such breach occurs without the willful or negligent default of the Licensee;

(c). failure of the Licensee to prepare or adhere to any codes, programmes or manuals required to be prepared by the Licensee and, where applicable, obtain approval of the Authority, where such failure has a material adverse effect on the performance by the Licensee of its obligations under the Applicable Documents;

(d). except for the purposes of an amalgamation, reconstruction or re-organisation of the Licensee approved by the Authority, the occurrence of any of the following events:-

(i). the passing of a resolution by the shareholders for the winding-up of the Licensee, with the majority required under the Companies Ordinance, 1984 (XLVII) of 1984 (as amended or replaced from time to time), to give effect to such resolution;

(ii). the appointment of a receiver, official assignee or administrator of the affairs of the Licensee which appointment has not been set aside or stayed within ninety (90) days of the date of such appointment; or

(iii). the making by a court of competent jurisdiction of an order for the winding-up of the Licensee that has not been stayed or set aside within thirty (30) days of the date of the order;

(e). abandonment by the Licensee of the operation of the Transmission Business or any part thereof;

(f). the incurring by the Licensee of cumulative operating losses in an amount which materially and adversely affects, or is likely to affect, the financial viability of the Licensee and which disables or is likely to disable the Licensee from carrying out its Transmission Business and the failure of the Licensee to implement measures for improvement of its financial position within the time limit and with the results specified in this behalf by the Authority;

(g). the assignment or transfer of this Licence or the transfer, conveyance, loss or relinquishment by the Licensee of the ownership or control or the right to own, control or operate the Transmission Business or any material part thereof without an authorization in accordance with the provisions of the Act or this Licence, except where such transfer, conveyance, loss or relinquishment is effected pursuant to a contract approved by the Authority for the management or operation of the transmission facilities by a person other than the Licensee;

(h). any statement or representation made or information provided by the Licensee in the application for this Licence or subsequently on the directions of the Authority or pursuant to any Applicable Documents proving to have been incorrect, inaccurate or misleading in any material aspect and having a material adverse effect on the ability of the Licensee to perform its obligations under this Licence or causing the Authority to issue or renew this Licence in the belief of the accuracy and correctness of such statement, representation or information irrespective of whether or not the Authority would have issued this Licence if it had knowledge of the inaccuracy of such statement, representation or information;

(i). the exercise by the lenders, if any, of the Licensee of their remedies under the documentation relating to loans by such lenders in respect of the Transmission Business, where the exercise of the remedies renders the Licensee incapable of performing its obligations in its own right under this Licence or the Applicable Documents including, without limitation, the removal of the management of the Licensee from the control of the Transmission Business and the failure of the Licensee to obtain approval of the Authority for the appointment of the successor management within one hundred and twenty (120) days after such removal;

(j). any default by the Licensee in the making of any payment, other than the Licence fee, required to be made by it under the Applicable Documents within ninety (90) days of the due date thereof; or

(k). failure of the Licensee to comply with the objects, terms and articles of this Licence due to supervening impossibility notwithstanding the best efforts of the Licensee to comply, where such non-compliance continues for a period of ninety (90) days consecutively or for a cumulative period of one hundred and twenty (120) days in a calendar year.

5.4 Notwithstanding the provisions of this Article, the Authority shall not revoke or suspend this Licence where the Licensee demonstrates to the satisfaction of the Authority that the breach of the terms of the Licence is a direct result of the failure of the Licensee to obtain consent or its renewal except where such consent is not granted or renewed because of the failure or inability of the Licensee to comply with the laws in relation to such consent or renewal and without providing an opportunity of hearing.

5.5 Any decision to suspend or revoke this Licence shall be taken in accordance with the Act and the Applicable Documents.

Article-6
Procurement of Electric Power

6.1 The Licensee shall ensure that neither it nor any of its Affiliates or related undertakings on its own or in concert with others purchases electric power for the purpose of sale to a third party.

6.2 The Licensee shall not take any measure to prevent or unduly delay changes to Applicable Documents to which it is a party and are required for the development of competitive electricity market and complete and timely enforcement and operation of competitive electricity market.

Article-7
Accounting Practices and Audit

7.1 Subject to and in accordance with the terms of this Licence, the Licensee shall prepare the accounts of its business and other businesses, if any, in accordance with the Act and the Applicable Documents.

7.2 The Licensee shall ensure that the Licensee and each of its Affiliates maintains accounting and financial reporting arrangements which enable separate accounts to be prepared for each separate business and showing the financial affairs of each such separate business as if it was a separate company so that the revenues, costs, assets, liabilities, capital, reserves and provisions of or reasonably attributed to, each separate business are separately identifiable in the books of the Licensee and its Affiliates from those of any other business, in sufficient detail.

7.3 The Licensee and any of its Affiliates shall:-

(a). maintain and preserve the books of account and accounting records in respect of each financial year for a period of five(5) years; and

(b). prepare on a consistent basis for such financial records in respect of each financial year, accounting statement comprising of a profit and loss account, balance sheet and a statement of source and application of funds, together with notes thereto, and showing separately in respect of each separate business and in appropriate detail the amounts of any revenue, costs, assets, liability, reserve or provision which has been either:-

(i). charged from or to any other business, whether or not a separate business, together with a description of the basis of that charge; or

(ii). determined by apportionment or allocation between any separate business together with a description of the basis of the apportionment or allocation.

7.4 Without prejudice to the provisions of the Applicable Documents regarding the audit of the accounts of the Licensee, the Authority may, after giving the Licensee an opportunity to be heard in this regard, appoint independent auditors of national/international repute from amongst a panel of auditors specified in this behalf by the Authority through a notification in the official Gazette, for the audit of the accounts of the Licensee, where the Authority has reason(s) to believe that the accounts provided to the Authority by the Licensee do not provide a complete, true and fair view of the Transmission Business or any separate business of the Licensee, provided that such audit shall be restricted to accounting matters under question and shall not be carried out more than once in a financial year.

7.5 The costs of audit as referred to in Sub Article-7.4 shall be borne by the Licensee.

7.6 The Licensee shall ensure that the accounting statements in respect of each financial year prepared under Sub Article-7.3 (b) and report of the Auditor in

respect of each financial year are made available to any person requesting them at a price not exceeding fair copying charges.

Article-8
Open Access

8.1 Subject to Section-18B of the Act, the Licensee shall offer its transmission and inter-connection services to NTDC and others on such terms and conditions as may be determined by the Authority.

8.2 The Licensee in consultation with NTDC shall administer access (offer to connect) to its transmission facilities in a fair, transparent and open manner setting out rules, policies, procedures and charges as described in this Licence or Applicable Documents to be developed by the Licensee and approved by the Authority.

Article-9
Tariff

9.1 The Licensee shall submit to the Authority a petition for determination of tariff/use of system charge in respect of its transmission business at least one hundred and eighty (180) days before starting any project.

9.2 The Authority shall determine tariff in respect of the transmission business of the Licensee pursuant to NEPRA (Tariff Standards and Procedure) Rules, 1998 (as amended or replaced from time to time).

9.3 The Licensee shall make available to general public the tariff specifying the rates, charges and other terms and conditions for transmission and inter-connection services determined/approved by the Authority.

Article-10
Grid Code

The Licensee shall comply with the provisions, terms & conditions of the Grid Code prepared by the NTDC and approved by the Authority as amended from time to time.

Article-11
Compliance with Distribution Codes

11.1 The Licensee shall comply with the relevant provisions of the Distribution Code of the concerned distribution licensee to the extent applicable to the Licensee in the discharge of its obligations under this Licence.

11.2 The Licensee shall comply with any request of a distribution company with respect to its obligations to comply with the Distribution Code as long as such compliance by the Licensee is not in violation of the Grid Code.

Article-12
Commercial Code

The Licensee shall comply with all relevant provisions in the Commercial Code approved by the Authority relevant to transmission, reliable operation, balancing and Ancillary Services and provision of information to CPPA-G.

Article-13
Acquisition and Disposal of Assets

The Licensee shall not, except under prior authorisation of the Authority, sell or dispose in any manner any tangible assets comprised in the transmission facilities or any intangible assets accruing or likely to accrue to the Licensee from the Transmission Business.

Article-14
Compliance with Performance Standards

The Licensee shall comply with the relevant provisions of the National Electric Power Regulatory Authority Performance Standards (Transmission) Rules, 2005, as amended or replaced from time to time.

Article-15
Security Standard and Quality of Service

15.1 The Licensee shall plan, construct, own, operate and maintain its transmission facilities in accordance with the Grid Code and subject to the approval of the Authority.

15.2 Within three (03) months after the end of each financial year the Licensee shall submit to the Authority a report providing details of the performance of the Licensee during the previous financial year in maintaining the security, availability and quality of service of its transmission facilities.

15.3 The criteria referred to in the Sub Article-15.2, against which the performance of the Licensee will be measured will be set out in a statement drawn up consistent with the NEPRA Performance Standards (Transmission) Rules, 2005 and approved by the Authority in consultation with the Licensee.

15.4 The Authority may following consultation with the Licensee and, where appropriate with other licensees, issue directions relieving the Licensee of its obligations under Sub Article-15.1 in respect of certain parts of the transmission facilities of the Licensee.

Article-16
Compliance with Environmental Standards

The Licensee shall conform to the environmental standards as may be prescribed by the relevant competent authority from time to time.

Article-17
Availability of Resources

17.1 The Licensee shall at all times act in a manner to ensure that it has sufficient management and financial resources to enable it to:

(a). carry out the Transmission Businesses; and

(b). comply with its obligations under this Licence, the Act and the Applicable Documents.

17.2 Not later than two (02) calendar months following the beginning of each financial year, the Licensee shall submit a statement in writing to the Authority informing the Authority of its ability (or inability as the case may be) to fulfill its obligations under the Sub Article-17.1.

17.3 The Licensee shall, as soon as it becomes aware, notify the Authority of any circumstances that may prevent it from fulfilling its obligations under the Sub Article-17.1.

Article-18
Industry Standards and Codes of Conduct

18.1 The Licensee shall participate in such measures and activities as may be initiated by the Authority for the development of industry standards and uniform codes of conduct.

18.2 The Licensee shall be obliged to comply with such industry standards and uniform codes of conduct which may be specified by the Authority as having a bearing on the safety, reliability, stability, integrated operability and efficiency of the whole or a material part of the electric power system.

Article-19
Insurance

The Licensee may obtain and maintain such policies of insurance as deemed fit and appropriate in accordance with the prudent utility practices.

Article-20
Maintenance of Records

20.1 The Licensee shall keep complete and accurate records and data in respect of all aspects of each of its separate businesses. All such records and data shall, unless provided otherwise under the Laws or the Applicable Documents, be maintained for a period of five (05) years after the creation of such record or data.

20.2 The Authority may authorize any of its officer/professional staff to inspect documents, record and data as may be necessary to carry out the purposes of the Act and the Applicable Documents, at any time without prior notice to the Licensee.

20.3 For the purposes of Sub Article-20.2, the authorized officer/professional staff shall have full and free access to any premises, place, documents or work station and may make copy of relevant record, information and data as may be necessary for the purposes of the Act and the Applicable Documents. The Licensee shall provide all reasonable facilities and assistance to ensure the effective exercise of the right of inspection.

Article-21
Safety to Public

The Licensee shall plan, design, operate and maintain its transmission facilities in such a manner so as not to endanger public life or property.

Article-22
Health and Safety of Employees

The Licensee shall arrange and maintain appropriate machinery in respect of the health and safety of the employees of Licensee at work.

Article-23
Provision of Information to the Authority and General Public

Pursuant to Section-44 of the Act, the Licensee shall furnish to the Authority, in such manner and at such times as the Authority may require, such information and shall procure and furnish such reports, as the Authority may require and deem necessary.

Article-24
Eligibility Criteria

The Licensee shall, in accordance with the provisions of the Section-18A of the Act, follow the provisions of eligibility criteria including (a). minimum solvency requirements; and (b). minimum technical and human resource requirements, without any exception. The decision of the Authority in this regard shall be final.

Article-25
Responsibilities of the Licensee as Provincial Grid Company

In accordance with the provisions of the Section-18B of the Act, the Licensee shall adhere to the provisions relating to its responsibilities as provincial grid company, without any exception. The decision of the Authority in this regard shall be final.

Article-26
Bankable Feasibility Studies

The Licensee shall, carry out bankable feasibly study through renowned consultant(s) for each of its project relating to its transmission business, without any exception. The decision of the Authority in this regard shall be final.

Article-27
Scope of the Projects

The Licensee shall consult all the relevant stakeholders including but not limited to NTDC, KEL, HESCO, SEPCO and CPPAGL to firm up the scope of its various projects relating to its Transmission Business, without any exception. The decision of the Authority in this regard shall be final.

Article-28
Adherence to Integrated Generation Capacity Expansion Plan

The Licensee shall adhere to the Integrated Generation Capacity Expansion Plan prepared by NTDC and approved by the Authority, without any exception. The decision of the Authority in this regard shall be final.

Article-29
Right of Way

The Licensee shall coordinate with NTDC, KEL, HESCO, SEPCO or any other related entity to best utilize the available right of way so that it is utilized in an optimum way without affecting the overall planning being carried out in the country. Any dispute relating to the right of way shall be adjudicated by the Authority and decision in this regard will be final and binding on all the stakeholders.

Article-30
Safety, Health and Environment

The Licensee shall adhere to the relevant safety, health and environment standards without any exception.

Article-31
Compliance of Commercial Code

The Licensee shall comply with the relevant provisions Commercial Code without any exception.

Article-32
Interpretation of the Licence Provisions

The Authority shall, in accordance with the provisions of the Act make the interpretation of any or all of the provisions of this Licence. The decision of the Authority in this regard shall be final.

SCHEDULE-I

The Specified Transmission Facilities the Licensee (is allowed to construct, own, maintain and operate in the province of Sindh) are set out in this Schedule

Description of the Proposed Transmission Facilities of the Licensee as PGC

The Province of Sindh has an area of 140,914 sq.kms and is blessed with both Wind & Solar resources. ST&DCPL as a PGC plans to tap and fully utilize all the Renewable Energy Resources for Cleaner Environment and Cheaper Tariff.

(2). ST&DCPL as PGC plans to construct new 220 kV Grid Stations at Nooriabad, Maymar, Gadap and Gharo Sites. Construction of all these proposed new Grid Stations will facilitate the evacuation of power from upcoming IPPs in these attractive areas for the investors.

(3). Similarly 220kV Grid Stations would also be constructed at Bahria Town and DHA-City Housing schemes which are large load centers as per load forecast. The different projects/power plant/generation facilities located Nooriabad, Maymar, Gadap and Gharo 220kV Grid Stations may be connected to the HESCO, SEPCO, KE and NTDC Network using 220kV double circuit Transmission Lines to have better system reliability.

(4). Furthermore, ST&DCPL may also be constructing 500kV Grid Stations & Transmission Lines where ever required. The average line length may vary from 50 kms to 250 kms. Apart from the above Scheme PGC will be constructing new Grid Stations and Transmission Lines in whole of the Sindh Province as and where required thus resolving the long awaited issue of Power Evacuation.

Route of the Transmission Facilities-I of the Licensee as PGC

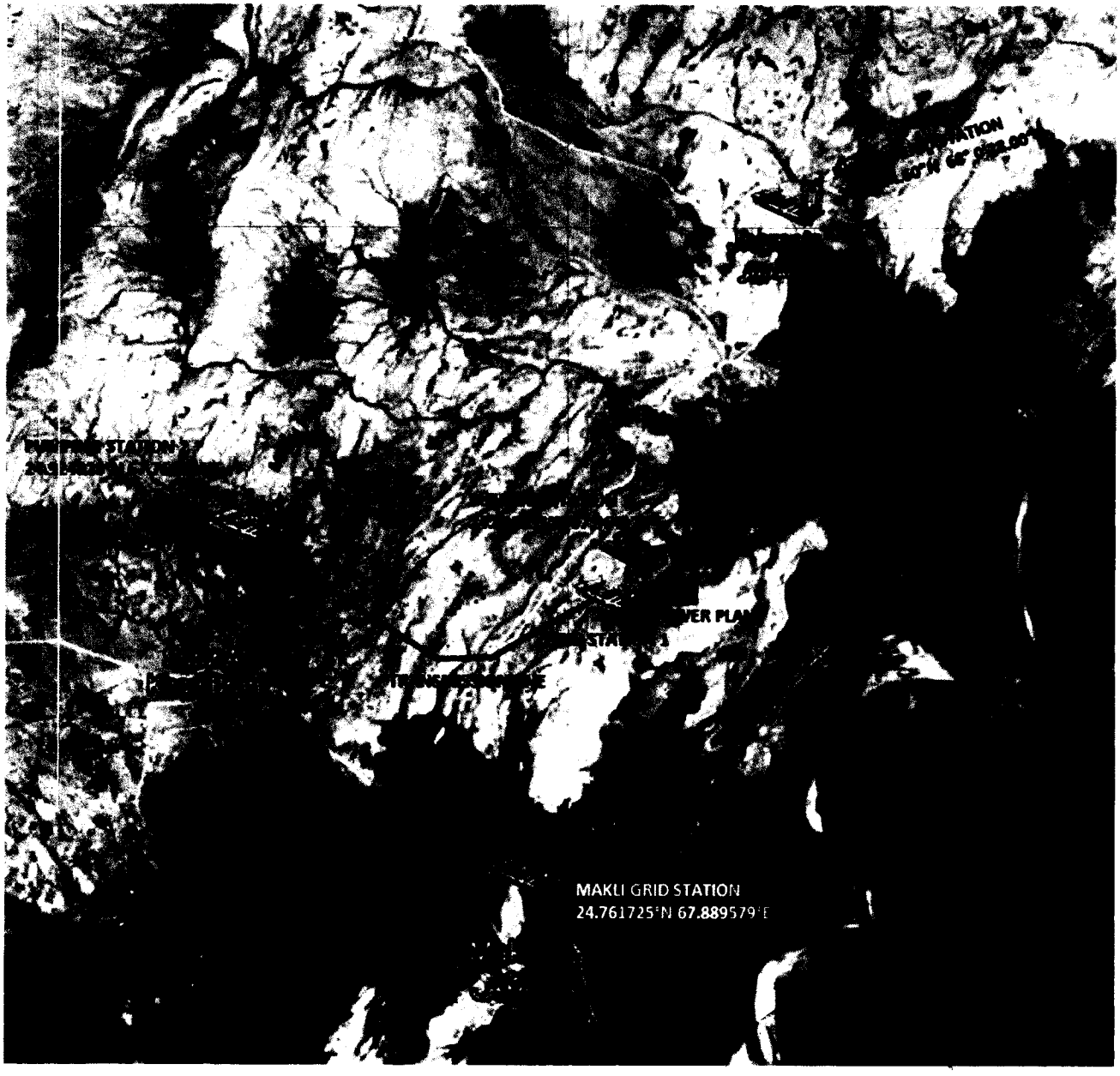
PGC INITIAL EVACUATION PLAN IN NOORIABAD/NORTHERN BYPASS LOCATION

Route of the Transmission Facilities-II of the Licensee as PGC

STDC
Sindh Transmission & Dispatch Company (Pvt.) Limited

Transmitting Energy From Generation To Generations

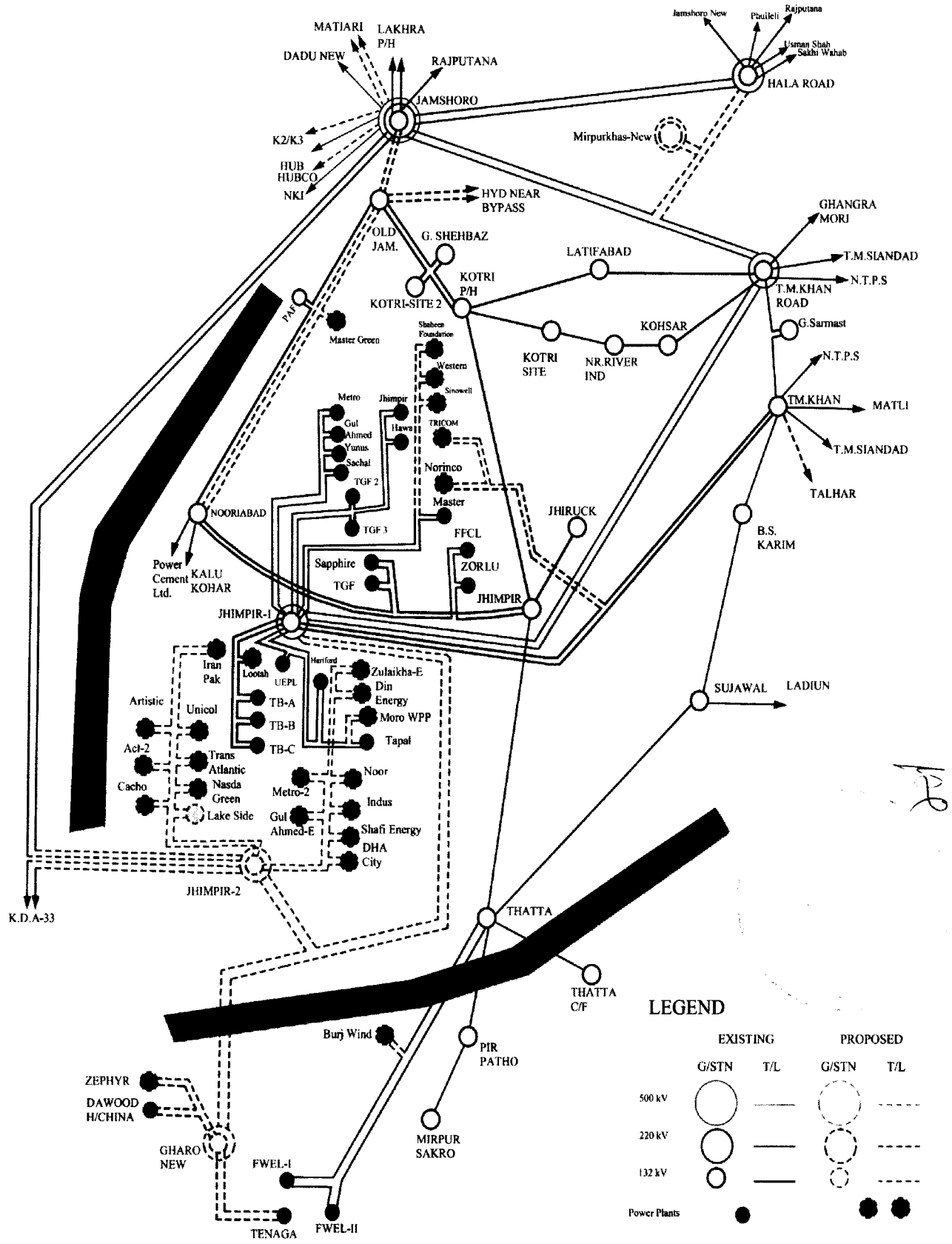
SCHEMATIC DIAGRAM FOR TRANSMISSION OF POWER TO PUMPING STATION 1 & 2 OF K-IV PROJECT OF KWSB FOR WATER SUPPLY TO KARACHI FROM KINJHAR LAKE,JHIMPIR,SINDH



Integrated Scheme for Evacuation of Electric Power from the Wind Corridor& Transmission Facilities-II of the Licensee as PGC

Plan A

Proposed Integerated Scheme of Interconnection for Power Evacuation of Wind Power Projects



Keti Bandar Wind Corridor

*The sketch is not to scale and is tentative

SCHEDULE-II

The details specific to the Transmission Facilities of the Licensee, including length of line, transmission line type (underground/overhead), connecting grids, technical limits, technical functional specifications and other information are described in this Schedule.

Detail of Transmission Facilities of the Licensee

(A). General Information

(i).	Name of Company/ Licensee	Sindh Transmission & Dispatch Company (Pvt.) Limited.
(ii).	Registered/Business Office of the Company/Licensee	3rd Floor, State Life Building No.3 Dr. Ziauddin Ahmed Road, Karachi in the Province of Sind.
(iii).	Type of Transmission Facilities	Overhead Transmission Line (T/L)

(B). List of Potential Project

Sr. No.	Name of Project
(1).	Construction of new Transmission Lines of 132kV and 220kV in Jhimpir area for evacuation of power from Wind Power Plants (WPPs);
(2).	Construction of new Grid Stations of 132kV and 220kV in Jhimpir area for evacuation of power from Wind Power Plants (WPPs);
(3).	Carrying out the operation and maintenance of all the associated transmission lines and grid stations in Jhimpir area;
(4).	Construction of two (02) 132kV Grid Stations and one (01) 132kV Double Circuit Transmission Line of 25kms approximately to supply power to pumping Station 1 & Pumping Station 2 of KWSB K-IV Power Project;
(5).	Carrying out operation and maintenance of K-IV Power project as above;
(6).	Operation and maintenance of Nooriabad-KEL Transmission Line.

(C). Material for 132 KV Transmission Lines

Sr. No.	Type of Material*	Quantity/Bill of Quantities
(1).	Suspension/Normal Towers (ZM-1° or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	As per Actual Survey/decided route/The quantities will be firmed after actual survey and related activities
(2).	Light Angle Towers (ZM-30° or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(3).	Heavy Angle Towers (ZM-60° or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(4).	ACSR/AASC Conductor for Transmission Line(s) (LYNX/RAIL/GREELY/CAIRO or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(4).	Single Suspension Strings for above type of conductor(s) for Suspension/Normal Towers (ZM-1° or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(5).	Single Tension Strings for Angle Towers (ZM-30°/ZM-60° or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(6).	Mid Span Joints for above type of conductor(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(7).	Repair Sleeve Joints for above type of conductor(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(8).	Stock Bridge Dampers for above type of conductor(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	
(9).	Earth Wire for above (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(10).	Single Suspension Strings for above type of Earth wire(s) for Suspension/Normal Towers (ZM-1° or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(11).	Single Tension Strings for above type of Earth wire(s) for Angle Towers (ZM-30°/ ZM-60° or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(12).	Mid Span Joints for above type of Earth wire(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(13).	Repair Sleeve Joints for above type of Earth wire (s) (as per specification of HESCO/SEPCO/KEL/NTDC)	
(14).	Stock Bridge Dampers for above type of Earth wire (s) (as per specification of HESCO/SEPCO/KEL/NTDC)	

* Indicative detail only

(D). Material for 220 KV Transmission Lines

Sr. No.	Type of Material†	Quantity/Bill of Quantities
(1).	Suspension/Normal Towers (EA° or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	As per Actual Survey/decided route/The quantities will be firmed after actual survey and related activities
(2).	Light Angle Towers (ED/EG or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(3).	Heavy Angle Towers (JKD or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(4).	ACSR/AASC Conductor for Transmission Line(s) (RAIL/GREELY or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(4).	Single/Double Suspension Strings for above type of conductor(s) for Suspension/Normal Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(5).	Single/Double Tension Strings for Angle Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(6).	Mid Span Joints for above type of conductor(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(7).	Repair Sleeve Joints for above type of conductor(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(8).	Stock Bridge Dampers/Spacer Dampers for above type of conductor(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	
(9).	Earth Wire for above (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(10).	Single Suspension Strings for above type of Earth wire(s) for Suspension/Normal Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(11).	Single Tension Strings for above type of Earth wire(s) for Angle Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(12).	Mid Span Joints for above type of Earth wire(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(13).	Repair Sleeve Joints for above type of Earth wire (s) (as per specification of HESCO/SEPCO/KEL/NTDC)	
(14).	Stock Bridge Dampers for above type of Earth wire (s) (as per specification of HESCO/SEPCO/KEL/NTDC)	

† Indicative detail only

(E). Material for 500 KV Transmission Lines

Sr. No.	Type of Material‡	Quantity/Bill of Quantities
(1).	Suspension/Normal Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	As per Actual Survey/decided route/The quantities will be firmed after actual survey and related activities
(2).	Light Angle Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(3).	Heavy Angle Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(4).	ACSR/AASC Conductor for Transmission Line(s) (RAIL/GREELY or Equivalent as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(4).	Single/Double Suspension Strings for above type of conductor(s) for Suspension/Normal Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(5).	Single/Double Tension Strings for Angle Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(6).	Mid Span Joints for above type of conductor(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(7).	Repair Sleeve Joints for above type of conductor(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(8).	Spacer Dampers for above type of conductor(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	
(9).	Earth Wire for above (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(10).	Single Suspension Strings for above type of Earth wire(s) for Suspension/Normal Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(11).	Single Tension Strings for above type of Earth wire(s) for Angle Towers (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(12).	Mid Span Joints for above type of Earth wire(s) (as per specification of HESCO/SEPCO/KEL/NTDC)	-Do-
(13).	Repair Sleeve Joints for above type of Earth wire (s) (as per specification of HESCO/SEPCO/KEL/NTDC)	
(14).	Stock Bridge Dampers for above type of Earth wire (s) (as per specification of HESCO/SEPCO/KEL/NTDC)	

‡ Indicative detail only