



**Registrar**

# National Electric Power Regulatory Authority Islamic Republic of Pakistan

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No. NEPRA/R/DL/LAG-422/11813-19

April 29, 2020

Dr. Asif Qayyum Qureshi, Ph.D.,  
Chief Operating Officer,  
Saifco Hydropower Limited,  
Office Galleria Islamabad, Plot No. 12,  
I-8 Markaz, Islamabad.

Subject: **Grant of Generation Licence No. IGSP/105/2020  
Licence Application No. LAG-422  
Saifco Hydropower Limited (SHPL)**

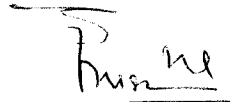
Reference: *SHPL's application vide letter No. Nil dated March 02, 2018.*

Enclosed please find herewith Determination of the Authority in the matter of Application of "Saifco Hydropower Limited (SHPL)" for the Grant of Generation Licence along with Generation Licence No. IGSP/105/2020 annexed to this determination granted by the National Electric Power Regulatory Authority (NEPRA) to Saifco Hydropower Limited (SHPL) for its 106.20 MW Hydropower Project located on River Panjkora, Village Shigo Kas, Tehsil Timergara, District Lower Dir, in the Province of Khyber Pakhtunkhwa, pursuant to Section 14B of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997/Amendment Act, 2018.

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

**Enclosure: As Above**



  
29 04 20  
(Syed Safer Hussain)

Copy to:

1. Secretary, Power Division, Ministry of Energy, 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, Peshawar Electric Supply Company Limited, PESCO House, Shami Road Peshawar.
5. Director General, Environment Protection Department, Government of KPK, 3<sup>rd</sup> Floor, Old Courts Building, Khyber Road, Peshawar.
6. Secretary, Energy and Power Department, Government of Khyber Pakhtunkhwa, 1<sup>st</sup> Floor, A-Block, Abdul-Wali Khan Multiplex, Civil Secretariat, Peshawar.

**National Electric Power Regulatory Authority**  
**(NEPRA)**

**Determination of the Authority**  
**in the Matter of Application of Saifco Hydropower Limited for**  
**the Grant of Generation Licence**

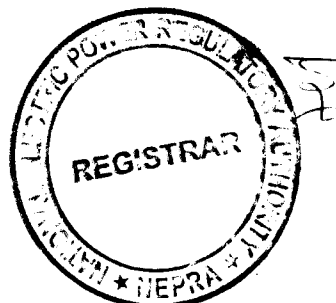
**April 29, 2020**  
**Case No. LAG-422**

**(A). Background**

(i). Pakistan is blessed with such a topography that its province of Khyber Pakhtunkhwa offers a huge potential for the development electric power using its water resources. In order to attract the local and foreign investors for investing in the province, the Govt. of Khyber Pakhtunkhwa formulated and announced a policy for the development hydel potential.

(ii). The Govt. of Khyber Pakhtunkhwa through the Pakhtunkhwa Energy Development Organization ("PEDO") decided to offer solicited sites (where feasibility study has been conducted) to different investors as Independent Power Producers [IPP(s)] on Build-Own-Operate-Transfer (BOOT) basis through International Competitive Bidding/Competitive Bidding (ICB/CB) as stipulated in the "Khyber Pakhtunkhwa Hydropower Policy 2016" (hereafter called the KP Hydropower Policy). In consideration of the said, PEDO carried out ICB/CB and declared the joint venture of Saifco Group & China National Machinery Industry Corporation-Sinomach (hereafter called the "Sponsors") as the successful bidder for the development of 102.00 MW Shigo Kas Hydropower Project to be set up at Panjkora River located in district Lower Dir in the province of Khyber Pakhtunkhwa.

(iii). In view of the above, PEDO issued a Letter of Award (LoA) to the above mentioned Sponsors directing to approach the Authority for the completion of the regulatory formalities for the project. In order to implement the



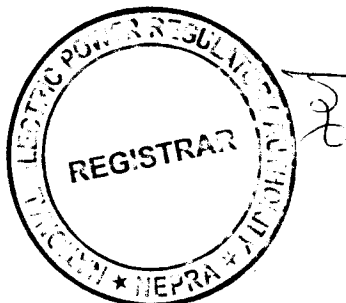
project, the Sponsors got incorporated under the company law, a Special Purpose Vehicle (SPV) in the name of Saifco Hydropower Limited (SHPL).

**(B). Filing of Application**

(i). SHPL submitted an application on March 06, 2018 for the grant of generation licence in terms of Section-14B of Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act") read with the relevant provisions of the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 (the "Licensing Regulations").

(ii). The Registrar examined the submitted application and found the same in substantial compliance of the Licensing Regulations. Accordingly, the Registrar submitted the application for 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 substantial compliance with Regulation-3 of the Licensing Regulations. Accordingly, the Authority admitted the application on April 11, 2018 for consideration of the grant of the generation licence as stipulated in Regulation-7 of the Licensing Regulations. 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 as stipulated in Regulation-8 of the Licensing Regulations. Accordingly, the said notices were published in one (01) Urdu and one (01) English newspapers on April 14, 2018.

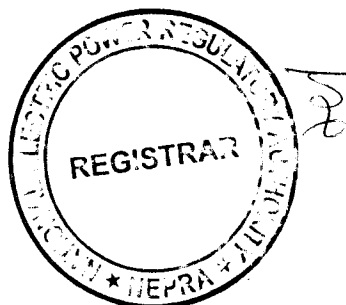
(iii). In addition to the above, the Authority also approved a list of stakeholders for seeking their comments for assistance of the Authority in the matter in terms of Regulation-9(2) of the Licensing Regulations. Accordingly, letters were sent to different stakeholders as per the approved list on April 17, 2018, soliciting their comments for assistance of the Authority.



**(C). Comments of Stakeholders**

(i). In reply to the above, the Authority received comments from five (05) stakeholders. These included Indus River System Authority (IRSA), Board of Investment of Prime Minister's Office (BOI), Alternative Energy Development Board (AEDB), Central Power Purchasing Agency (Guarantee) Limited (CPPAGL) and Water and Power Development Authority (WAPDA). The salient points of the comments offered by the said stakeholders are summarized below:-

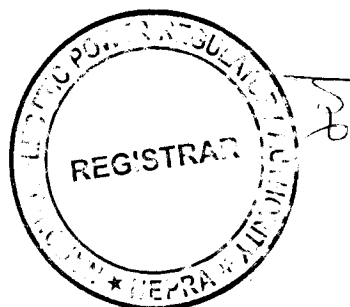
- (a). IRSA submitted that the Authority may ask the sponsors to provide it a copy of PC-1, along with feasibility report, of the project and also apply for No Objection Certificate (NOC);
- (b). BOI stated that energy is a priority sector of the Govt. of Pakistan therefore, being an investment promotion and facilitating agency it has been making efforts to attract investment in this sector. BOI considers that affordable and smooth supply of energy is the back bone for industrial growth as well as attracting FDI in the country therefore, the investors in any sector of the economy including energy must be encouraged;
- (c). AEDB in its comments supported the grant of generation licence to SHPL for its 102.00 MW proposed hydel based generation facility being planned to be set up as a Run of River facility at river of Panjkora in district Lower Dir of KPK;



(d). CPPAGL remarked that before granting generation licence to SHPL, the consent from Peshawar Electric Supply Company Limited (PESCO) and National Transmission & Despatch Company Limited (NTDCL) may be obtained regarding inclusion of the project in the Indicative Generation Capacity Expansion Plan (IGCEP) as per the Planning Code (PC-4) of the Grid Code. Further, the future probabilistic demand versus supply position of the national energy requirements should also be analyzed before granting generation licence to the project. Also, the Power Purchaser for the project may be clearly defined keeping in view the current regulatory and legal framework; and

(e). WAPDA in its comments supported the development of the proposed project being pursued by SHPL on river of Panjkora in district Lower Dir of Khyber Pakhtunkhwa as a Run of River facility.

(ii). The Authority reviewed the above comments of the stakeholders and considered it appropriate to seek the perspective of SHPL on the observations of IRSA and CPPAGL. On the comments of IRSA, it was submitted that the project has been awarded to the company through ICB/CB process to set up a hydro power based generation facility which will operate as IPP. In view of the said, it is clarified that project does not have a PC-I instead a feasibility study of the project carried out by PEDO which has been shared with IRSA. Further, it is confirmed that the Panjkora river has its confluence with Swat river which is a tributary of the Kabul River that is part of the Indus River basin. However, the project is a Run of River and the water from the project will be diverted back to the river not causing any impact on the flow of water of the river.



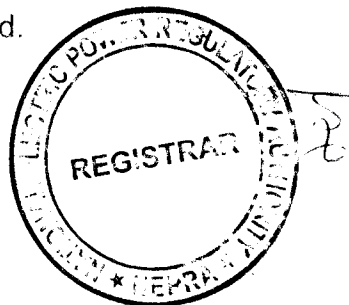
(iii). About the comments of CPPAGL, it was submitted that initially the project was not part of IGCEP however, the same has now been included on the recommendations of PEDO. In view of the said as well as the future rising demand of the country, the project will provide clean and low cost energy to the National Grid and therefore, must be considered for the grant of generation licence especially as it has been qualified through ICB/CB bidding process. About the Power Purchaser for the project, the same will be CPPAGL being a single buyer, operating as agent of the distribution companies and the same is in line with the current regulatory and legal framework prevailing at the moment.

(iv). The Authority considered the above submissions of SHPL and considered it appropriate to proceed further in the matter as stipulated in the Licensing Regulations and NEPRA Licensing (Generation) Rules 2000 (the "Generation Rules").

#### **(D). Evaluation/Findings**

(i). The Authority reviewed the submissions of SHPL including the information provided in its application for the grant of generation licence, comments of the stakeholders and the rejoinder in the matter. Further to the said, the Authority also considered the feasibility study of the project, Grid Interconnection Study (GIS) of the project, the KP Hydropower Policy and the provisions of the NEPRA Act and the relevant rules & regulations made thereunder.

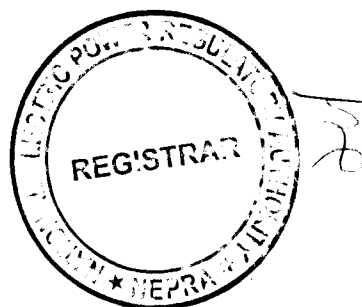
(ii). As explained above, the GoKP through PEDO offered the site for setting up a generation facility/hydel power plant to be developed as IPP on BOOT basis. It is pertinent that the project is located on the River of Panjkora near the village of Shigo Kas, in Tehsil Timergara and District Lower Dir in the province of Khyber Pakhtunkhwa. The project was offered to the investors as a solicited site for which PEDO got conducted a feasibility study through different consultants including ELECTRA Consultants Limited in association with Integration Consultant Limited.



(iii). After going through ICB/CB process, the board of PEDO accepted the bid of a joint venture of Saifco Group of Pakistan and China National Machinery Industry Corporation-Sinomach. The Authority has observed that Saifco Group has been in operation since 1971 and is among the leading business entities of the Pakistan with multifarious projects. The top management of the group consists of strong financiers, investors, professionals, project management teams and high-profile consultants with versatile, vast experience & expertise in multiple business disciplines. The current portfolio of the Saifco Group and its allied businesses enjoy a diverse business profile ranging from Real Estate Developments (Builders & Developers), Coal Mining, Oil & Gas, Travel & Tourism, Education, General Trading, Transportation and Software Development.

(iv). The Authority has observed that the other partner of the joint venture is China National Machinery Industry Corporation Limited-Sinomach, formerly known as the First Ministry of Machinery Industry, was established on Aug 07, 1952. It is an important State-owned enterprise directly managed by the central government. It inherited 70 research and design institutes, equipment manufacturing and industrial and trade enterprises from its predecessor and built itself on that foundation. It has 140,000 employees, over 27 wholly-owned or majority-owned subsidiaries, and 13 listed companies. It is a Fortune Global 500 enterprise and has continued to rank first among the top 100 enterprises in the machinery industry of China.

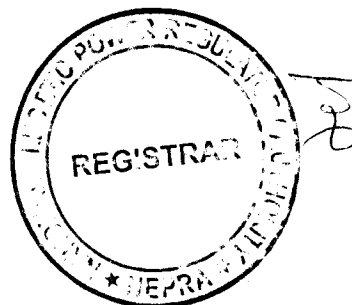
(v). Sinomach is an international, diversified, comprehensive industrial equipment company, providing quality services globally. Its primary businesses cover five main areas of equipment manufacturing and modern manufacturing services including mechanical equipment, technical research and development, project contracting, trade and services, and finance and investment. The scope of services cover critical national economic fields as machinery, energy,



transportation, automobiles, ship building metallurgy, construction, electronics, environmental engineering, aeronautics and astronautics and light industry.

(vi). The company has a market presence in five continents, with more than 300 overseas service agencies in over 100 countries and regions. For years, Sinomach has promoted further optimization of its resources, rebuilt its core competencies, accelerated the pace of “going global” and extensively advanced its strategic transformation with continuous technological, managerial and business model innovations. It has evolved from a traditional management-style State-owned enterprise into a modern international commercial force with the most diverse and comprehensive lines of business and strongest R&D capabilities in China’s machinery industry. The Authority considers that joint venture partners have the required financial strength and the technical capability to execute a project for which the Sponsors have approached for the grant of the generation licence.

(vii). As explained above, after going through an ICB/CB process, PEDO awarded the project to the above mentioned joint venture. As stated in the previous sections, for the implementation of the project the sponsors have incorporated a SPV in the name of SHPL under Section-16 of the Companies Act, 2017 (XIX of 2017) Having Corporate Universal Identification No. 0116622, dated February 22, 2018. The Registered/Business Office address of the company/SPV is office Galleria Islamabad, Plot No. 12, I-8 Markaz, Islamabad. According to the Memorandum of Association, the principal object of the company, *inert alia*, includes the designing, financing, insuring, building, establishing, owning, operating, maintaining, managing electric power generating plants for the generation, supply & transmission of electric power. According to the submitted information, the total outlay of the project will be approximately U.S. \$ 307.24 million which will be financed through a combination of debt (U.S. \$ 245.79 million) and equity (U.S. \$ 61.45 million) in a ratio of 80:20. It is pertinent to mention that the Authority vide its determination





No. NEPRA/TRF-438/SCHPL-2018/9283-9285, dated June 14, 2018 determined the tariff of the project.

(viii). The Authority reviewed the feasibility study of the project and same has revealed that the project of Shigo Kas is one of the several projects identified during the joint study of PEDO and its German Consultant, GTZ in 1992. The project is proposed to be a Run-of-River scheme on Panjkora River located at about 10Km downstream of Timergara Town in district lower Dir of the province of Khyber Pakhtunkhwa. The headwork is proposed near Shigo kas village comprises of concrete weir having two distinct sections i.e. one overflow section and other gated section. The intake of water is located on the left bank of Panjkora River and the sand trap is just downstream the intake. In this regard, three chambered sand trap has been proposed along the left bank for sediment exclusion. From the end of the sand trap, the water is conveyed to the headrace tunnel by a 65m connecting rectangular channel. The headrace tunnel is 10.22Km long having 7m diameter having horseshoe section with cross-sectional area of 40.63m<sup>2</sup>. A surge shaft (20m diameter) is located at end of the tunnel is exposed to the surface. A horizontal pressure tunnel of 6m diameter leads to a valve chamber. An inclined penstock 5.5m in diameter will drop from valve chamber to penstock manifold, feeding three generating units accommodated in the powerhouse in open cut on the left bank of Panjkora River. The powerhouse is located at village Mitta which is downstream of village Utala. A 31m long tailrace channel conveys water from powerhouse and discharges into the Panjkora River.

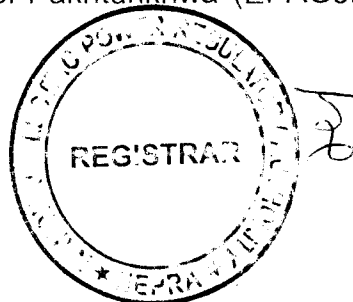
(ix). The hydraulic design studies of Shigo kas Hydropower Project include design of weir, intake, sand trap, power tunnel, surge shaft, penstock, powerhouse and tailrace. The hydrological studies show that minimum and maximum mean monthly discharges in Panjkora River at Shigo Kas site are 40m<sup>3</sup>/s and 366m<sup>3</sup>/s respectively. Based on economic evaluation and optimization, it was decided that power intake would be designed for rated discharge of 150m<sup>3</sup>/s that will produce approximately 102 MW of electric power.



The overall weir length is 113m comprising of an overflow section of 25m and two gated section. The full reservoir elevation is 650 masl. The average river bed level is at El. 639 masl. The total height of the weir is 11m above the average bed. The weir is designed to pass a flood of 5600m<sup>3</sup>/s corresponding to a flood level of 654 masl. The gated section with stilling basin will be provided in the center of existing river course. It will be used to spill excess flows and small floods in summer season while the powerhouse is still in operation. It has a discharge capacity of up to 2000m<sup>3</sup>/s at normal operating level of 650 masl. The gated section with roller buckets will be provided at the left bank. It will only be used during extreme floods when the tail water level is sufficiently high for proper operation of roller buckets.

(v). The Authority has observed that the sponsors of the project carried out the required GIS to determine the arrangement for dispersal of electric power from the proposed generation facility/hydel power plant. According to the said study, the interconnection arrangement for despatch of electric power will be on 132kV, consisting of a double circuit (D/C) transmission line (on ACSR Rail conductor measuring around 25.00 km) for connecting the generation facility/hydel power plant to 132kV Chakdara Grid Station of PESCO. In this regard, PESCO has also vetted/approved the above mentioned GIS, confirming that all the relevant parameters are within permissible limits of the Grid Code.

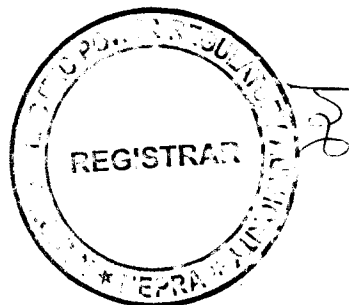
(vi). The Authority has observed that the proposed project, for which generation licence is being sought, is based on RE source and does not cause pollution as in the case of conventional hydro power plants. However, the operation of the generation facility/hydro power plant may cause soil pollution, water pollution and noise pollution during construction and operation. In this regard, the Authority has observed that SHPL carried out the Environmental and Social Soundness Assessment (ESSA) study for the project and submitted the same for the consideration and approval of Environmental Protection Agency, Government of Khyber Pakhtunkhwa (EPAGoKP). In this regard, EPAGoKP



had already issued a No Objection Certificate (NOC) to the company for the construction of the project.

(vii). In terms of Rule-3 of the Generation Rules, the Authority may grant a generation licence to any person to engage in the generation business. The said rule stipulates various conditions pertaining to the grant of generation licence as explained in Rule-3(2), Rule-3(3), Rule-3(4) and Rule-3(5) of the Generation Rules. In the particular case under consideration, the Authority considers that conditions of Rule-3(2) and Rule-3(3) stand satisfied as SHPL has provided details of location, technology, size, net capacity/energy yield, interconnection arrangements, technical limits, technical functional specifications and other details specific to the generation facility/hydel power plant. The provision of Rule-3(4) of the Generation Rules regarding holding a public hearing is not applicable as there was no issue which required this exercise.

(viii). The Rule-3(5) of the Generation Rules stipulates that the Authority may refuse to issue a generation licence where the site, technology, design, fuel, tariff or other relevant matters pertaining to the generation facility proposed in an application for a generation licence are either not suitable on environmental grounds or do not satisfy the least cost option criteria. In this regard, the Rule-3(5) of the Generation Rules also stipulates the conditions pertaining to least cost option criteria which include (a). sustainable development or optimum utilization of the renewable or non-renewable energy resources proposed for generation of electric power; (b). the availability of indigenous fuel and other resources; (c). the comparative costs of the construction, operation and maintenance of the proposed generation facility against the preferences indicated by the Authority; (d). the cost and right-of-way considerations related to the provision of transmission and interconnection facilities; (e). the constraints on the transmission system likely to result from the proposed generation facility and the costs of the transmission system expansion required to remove such constraints; (f). the short-term and the long-term



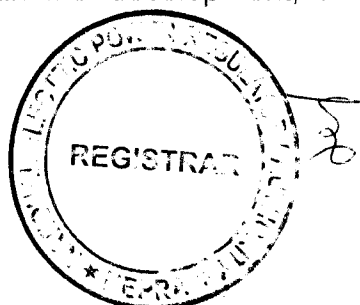
forecasts for additional capacity requirements; (g). the tariff resulting or likely to result from the construction or operation of the proposed generation facility; and (h) the optimum utilization of various sites in the context of both the short-term and the long-term requirements of the electric power industry as a whole. In consideration of the above, the Authority considers that the proposed project will result in optimum utilization of the RE of the province of Khyber Pakhtunkhwa which is untapped, resulting in pollution free electric power.

(ix). As explained in the preceding paragraphs, the sponsor of the project carried out the GIS which concludes that the project will not face any constraints in transmission system. Further, being located at reasonable distance from the thin population of the area, the project will not result in cost and right-of-way issues for the provision of transmission and interconnection facilities. In view of the said, the Authority is of the considered opinion that the project of SHPL fulfills the eligibility criteria for grant of generation licence as stipulated in the NEPRA Act, rules, regulations and other applicable documents.

#### **(E). Grant of Generation Licence**

(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 indigenous power generation resources including RE must be developed on priority basis.

(ii). The existing energy mix of the country is heavily skewed towards thermal power plants, mainly operating on imported fossil fuel. The continuous import of fossil fuel not only creates pressure on the precious foreign exchange reserves of the country but is also an environmental concern. Therefore, in order to achieve sustainable development, it is imperative that indigenous RE

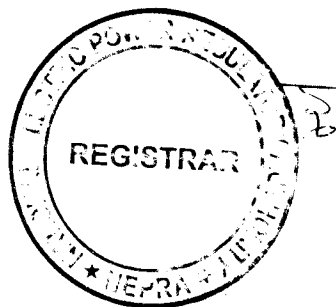


resources are given priority for electric power generation and their development is encouraged. In view of the said, the Authority is of the considered opinion that there is a worldwide trend to increase the share of RE in the energy mix of any country and it is very likely that the Govt. of Pakistan will also be considering to increase the share of RE substantially in the coming years.

(iii). The current case under consideration of the Authority is that SHPL which plans setting up a hydel based generation facility/hydel power plant a Run-of-River scheme on Panjkora River located at about 10-Km downstream of Timergara Town in district lower Dir of the province of KPK of an approximate installed capacity of 102.00 MW. As explained in the preceding paragraphs, the proposed project not only fulfils the eligibility criteria for grant of generation licence as envisaged in the existing regulatory regime but also majority of the stakeholders are in support of the project except a few comments of IRSA and CPPAGL making and raising certain concerns which the Authority considers appropriate to address through this determination.

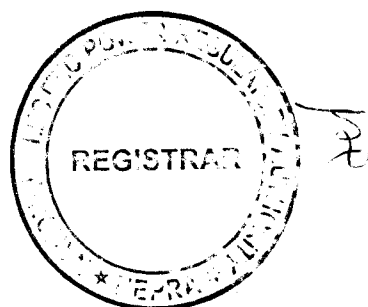
(iv). As explained in the preceding paragraphs, IRSA has desired the sponsors of the project submitting copy of PC-1, along with feasibility report, of the project for NOC. Whereas, CPPAGL has submitted that consent from PESCO and NTDCL may be obtained for inclusion of the project in the IGCEP. Further, the future demand vs supply position may be analyzed before granting generation licence to the project. Also the Power Purchaser for the project may be clearly defined keeping in view the current regulatory and legal framework.

(v). In consideration of the above, as explained in the preceding paragraphs the company has already submitted that required documents to IRSA for review and issuance of the NOC which is advance stage of issuance. In this regard the Authority has observed that the project is a Run of River type with no storage. The water from the river is only diverted for use for power generation and the same is diverted again and released back to the river without affecting the hydrology of the river. In view of the said, the Authority considers



that for the current project the NOC from IRSA may not be required. However, considering the fact that SHPL has already approached IRSA for NOC and submitted the details of the project including the feasibility study of the project which are under review of the competent authority. In view of the said, the Authority does not consider it appropriate holding the grant of generation licence in the absence of the NOC from IRSA. However, the Authority directs SHPL/the company to provide a copy of the NOC from IRSA once it is issued for its record. About the observations of CPPAG, the Authority has considered submissions of PEDO made to NTDC whereby it is confirmed that the project is now included in the IGCEP. Regarding the comment of CPPAG that the Authority should consider the demand- supply situation in the country before considering the grant of generation licence. In this regard, the Authority in its determinations for different cases of the grant of generation licence (a). Kulachi Solar Power (Pvt ) Limited; (b). Javed Solar Park (Pvt.) Limited; (c). Enertech Bostan Solar (Pvt.) Limited and (d). P&G Energy (Pvt.) Limited etc. has given a detailed determination confirming that a number of future projects are facing delay and their commissioning/achieving COD is likely to be delayed. Therefore, the Authority considers that project being of hydel using clean source is very much justified for which PEDO has carried out a ICB/CB and not granting a generation licence will not only jeopardize the bidding process but will also give a negative signal to the potential investors. About defining the Power Purchaser, the Authority considers that under the current regime, CPPAGL acts as a Power Purchaser for all the future projects till the time the competitive market is established in the country. Accordingly, for the current project, CPPAGL will continue to act as Power Purchaser which will also be indicated in the terms and conditions and articles of the generation licence to be granted to the company. Accordingly, the observations of IRSA and CPPAGL stands suitably addressed.

(vi). In view of the above, the Authority considers that the proposed project of SHPL will help in diversifying the energy portfolio as well increasing share of RE in the country. Further, it will not only enhance the energy security



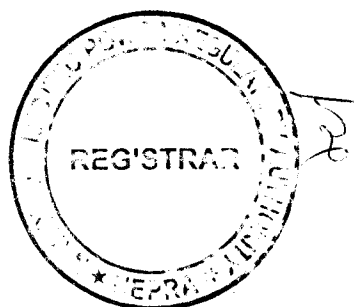
of the country by reducing the dependence on imported fuel but will also help in reducing carbon emissions by generating clean electricity, thus improving the environment.

(vii). As explained in the preceding paragraphs, SHPL has provided the details of location, technology, size, net capacity/energy yield, interconnection arrangements, technical details and other related information for the proposed generation facility/hydel power plant. The said details are being incorporated in the generation licence.

(viii). The term of a generation licence under Rule-5(1) of the Generation Rules is required to commensurate with the maximum expected life of the units comprised in a generating facility, except where an applicant for a generation licence consents to a shorter term. According to the information provided by SHPL, its generation facility/hydel power plant will achieve COD by June 30, 2024 and will have a useful life of more than thirty (30) years from its COD. In this regard, SHPL has requested that the term of the proposed generation licence may be fixed as thirty (30) years. The Authority considers that said submission of SHPL about the useful life of the generation facility/hydel power plant and the subsequent request to fix the term of the generation licence is consistent with international benchmarks therefore the Authority fixes the term of the generation licence as thirty (30) years from COD of the project.

(ix). 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. In this regard, the Authority through its determination No. NEPRA/TRF-438/SCHPL-2018/9283-9285, dated June 14, 2018 has already granted tariff for the proposed generation facility/hydel power plant. In view of the said, the Authority considers appropriate to direct SHPL to charge the power purchaser only such tariff which has been determined, approved or specified by it. Accordingly, the Authority decides to include a

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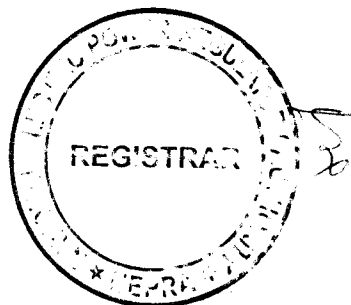


specific article in the generation licence. Further, the Authority directs SHPL to adhere to the said in letter and spirit without any exception.

(x). About the compliance with the environmental standards, as discussed in the preceding paragraphs, SHPL has provided the NOC from EPAGoKPK and has confirmed that the project will comply with the required standards during the term of the generation licence. In view of the importance of the issue, the Authority has decided to include a specific article in the generation licence along with other terms and conditions making it obligatory for SHPL to comply with relevant environmental standards at all times. Further, the Authority directs SHPL to submit a report on a bi-annual basis, confirming that operation of its generation facility/hydel power plant is in compliance with the required environmental standards as prescribed by the concerned environmental protection agency.

(xi). The proposed generation facility/hydel power plant of SHPL will be using RE resource for generation of electric power. Therefore, the project may qualify for the carbon credits under the Kyoto Protocol. Under the said protocol, projects coming into operation up to the year 2020 can qualify for the carbon credits. SHPL has informed that the project will achieve COD by June 30, 2024, which is beyond the deadline of the Kyoto Protocol. However, it is very likely that either the existing Kyoto Protocol is extended or some alternate Protocol will be in place in this regard. In view of the said, an article for carbon credits and its sharing with the power purchaser has been included in the generation licence for which SHPL must take the appropriate actions at the suitable earliest time so that proceeds for the carbon credits are materialized. SHPL shall be required to share the proceeds of the carbon credits with the power purchaser as stipulated in the generation licence.

(xii). In view of the above, the Authority hereby approves the grant of generation licence to SHPL on the terms and conditions set out in the generation licence annexed to this determination. The grant of generation licence will be





subject to the provisions contained in the NEPRA Act, relevant rules, regulations framed thereunder and other applicable documents.

**Authority:**

Engr. Rafique Ahmed Shaikh  
(Member)

Engr. Rehmatullah Baloch  
(Member)

Saif Ullah Chattha  
(Member)

Engr. Bahadur Shah  
(Member/Vice Chairman)

Engr. Tauseef H. Farooqi  
(Chairman)

*Rafique*  
20/4/20

*Rehmatullah*  
20/4/2020

*Saif Ullah* 23.4.2020

*Bahadur Shah*

*Tauseef H. Farooqi*



*Tauseef H. Farooqi*  
29 04 20

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

**GENERATION LICENCE**

**No. IGSPL/105/2020**

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

**SAIFCO HYDROPOWER LIMITED**

Incorporated Under Section-16  
of the Companies Act, 2017 (XIX of 2017) Having Corporate Universal  
Identification No. 0116622, dated February 22, 2018

**for its Hydel Based Generation Facility Located  
on River Panjkora at 10-Km downstream of Town of Timergara  
Near the Village Shigo Kas, Tehsil Timergara, District Lower Dir  
in the Province of Khyber Pakhtunkhwa**

(Total Installed Capacity: 106.20 MW Gross)

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

Given under my hand this on 29<sup>th</sup> day of April Two Thousand  
& Twenty and expires on 29<sup>th</sup> day of March Two Thousand &  
Fifty-Four.

Rusali  
29 04 20

**Registrar**

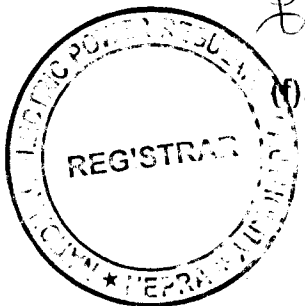


WGS

## Article-1 Definitions

### 1.1 In this licence

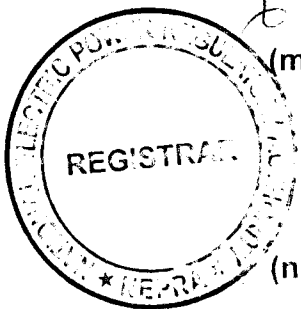
- (a). "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 as amended or replaced from time to time;
- (b). "Applicable Documents" mean the Act, the rules and regulations framed by the Authority under the Act, any documents or instruments issued or determinations made by the Authority under any of the foregoing or pursuant to the exercise of its powers under the Act, the Grid Code, the applicable Distribution Code, the Commercial Code if any, or the documents or instruments made by the Licensee pursuant to its generation licence, in each case of a binding nature applicable to the Licensee or, where applicable, to its affiliates and to which the Licensee or any of its affiliates may be subject;
- (c). "Applicable Law" means all the Applicable Documents;
- (d). "Authority" means the National Electric Power Regulatory Authority constituted under Section-3 of the Act;
- (e). "Bus Bar" means a system of conductors in the generation facility/Hydel Power Plant of the Licensee on which the electric power from all the generators is collected for supplying to the Power Purchaser;



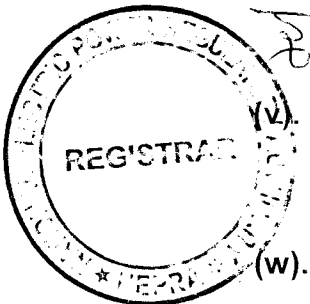
"Carbon Credits" mean the amount of Carbon Dioxide (CO<sub>2</sub>) and other greenhouse gases not produced as a result of generation of electric energy by the generation facility/Hydel Power Plant and other environmental air quality credits and related emissions reduction credits or benefits (economic or otherwise) related to the generation of electric energy by the generation facility/Hydel Power

Plant, which are available or can be obtained in relation to the generation facility/Hydel Power Plant after the COD;

- (g). "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;
- (h). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility/Hydel Power Plant of the Licensee is commissioned;
- (i). "Commissioning" means the undertaking of the Commissioning Tests of the generation facility/Hydel Power Plant as stipulated in the EPA;
- (j). "CPPA-G" means Central Power Purchasing Agency (Guarantee) Limited or any other entity created for the like purpose;
- (k). "Distribution Code" means the distribution code prepared by the concerned XW-DISCO and approved by the Authority, as may be revised from time to time with necessary approval of the Authority;
- (l). "Energy Purchase Agreement (EPA)" means the energy purchase agreement, entered or to be entered into by and between the Power Purchaser and the Licensee, for the purchase and sale of electric energy generated by the generation facility/Hydel Power Plant, as may be amended by the parties thereto from time to time;
- (m). "Generation Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000 as amended or replaced from time to time;
- (n). "Grid Code" means the grid code prepared and revised from time to time by NTDC with necessary approval of the Authority;

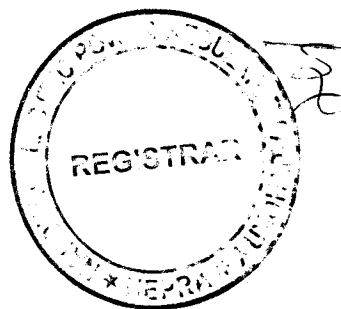


- (o). "GoKPK" means the Government of the province of Khyber PakhtunKhwa acting through the PEDO which has issued letter of intent to the Licensee for the design, engineering, construction, insuring, commissioning, operation and maintenance of the generation facility/Hydel Power Plant;
- (p). "GoP" means the Government of Pakistan acting through the PPIB which has issued or will be issuing to the Licensee a LoS for the design, engineering, construction, insuring, commissioning, operation and maintenance of the generation facility/Hydel Power Plant;
- (q). "Hydel Power Plant " means a generation facility for production of electric power using water as source;
- (r). "IEC" means "the International Electrotechnical Commission or its successors or permitted assigns;
- (s). "IEEE" means the Institute of Electrical and Electronics Engineers or its successors or permitted assigns;
- (t). "Implementation Agreement (IA)" means the implementation agreement signed or to be signed between the GoP and the Licensee in relation to this particular generation facility/Hydel Power Plant, as may be amended from time to time;
- (u). "KPK Policy" means the KP Hydropower Policy 2016 of GoKPK as amended or replaced from time to time;
- (v). "Letter of Support (LoS)" means the letter of support issued or to be issued by the GoP through the PPIB to the Licensee;
- (w). "Licensee" means Saifco Hydropower Limited or its successors or permitted assigns;



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- (x). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time;
- (y). "Net Delivered Energy" means the net electric energy expressed in kWh generated by the generation facility/Hydel Power Plant of the Licensee at its outgoing Bus Bar and delivered to the Power Purchaser;
- (z). "NTDC" means National Transmission and Despatch Company Limited or its successors or permitted assigns;
- (aa). "PEDO" means Pakhtunkhwa Energy Development Organization or any other entity created for the like purpose established by the GoKPK to facilitate, promote and encourage development of private sector participation for development of projects for electric power in the province of Khyber PakhtunKhwa/KPK;
- (bb). "PESCO" means Peshawar Electric Supply Company Limited or its successors or permitted assigns;
- (cc). "Policy" means the Policy for Development of Renewable Energy for Power Generation, 2006 of GoP as amended or replaced from time to time;
- (dd). "Power Purchaser" means CPPA-G which will be purchasing electric energy from the Licensee either on behalf of all XW-DISCOs or any single XW-DISCO, pursuant to an EPA for procurement of electric energy;



- (ee). "PPIB" means the Private Power Infrastructure Board or any other entity created for the like purpose established by the GoP to facilitate, promote and encourage development of renewable energy in the country;
- (ff). "SCADA System" means the supervisory control and data acquisition system for gathering of data in real time from remote locations to control equipment and conditions;
- (gg). "XW-DISCO" means an Ex-WAPDA distribution company engaged in the distribution of electric power".

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

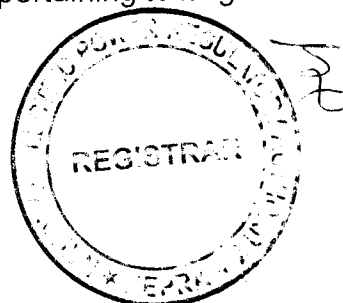
## **Article-2** **Applicability of Law**

This licence is issued subject to the provisions of the Applicable Law, as amended from time to time.

## **Article-3** **Generation Facilities**

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

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



#### **Article-4** **Term of Licence**

4.1 This licence shall become effective from the date of its issuance and will have a term of twenty-five (25) years from the COD of the generation facility/Hydel Power Plant of the Licensee subject to Section 14-B of the Act.

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

#### **Article-5** **Licence fee**

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

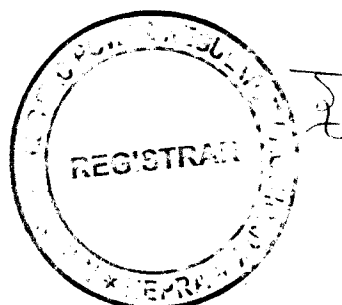
#### **Article-6** **Tariff**

The Licensee shall charge only such tariff from the Power Purchaser which has been determined, approved or specified by the Authority.

#### **Article-7** **Competitive Trading Arrangement**

7.1 The Licensee shall participate in such manner as may be directed by the Authority from time to time for development of a Competitive Trading Arrangement.

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





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

### **Article-8** **Maintenance of Records**

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

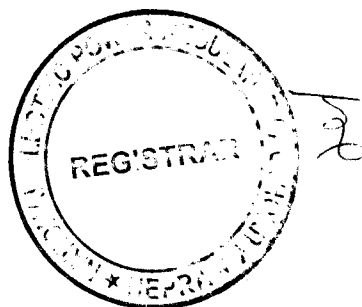
### **Article-9** **Compliance with Performance Standards**

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

### **Article-10** **Compliance with Environmental & Safety Standards**

10.1 The generation facility/Hydel Power Plant of the Licensee shall comply with the environmental and safety standards as may be prescribed by the relevant competent authority from time to time.

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



### **Article-11** **Power off take Point and Voltage**

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

### **Article-12** **Performance Data**

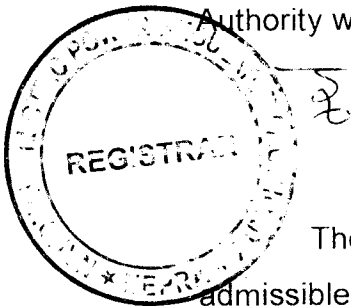
12.1 The Licensee shall install properly calibrated automatic computerized recording device(s) for measuring flow of water at its generation facility/Hydel Power Plant for recording of data.

12.2 The Licensee shall install SCADA System or compatible communication system at its generation facility/Hydel Power Plant as well as at the side of the Power Purchaser.

12.3 The Licensee shall transmit the data for flows of water and power output of its generation facility/Hydel Power Plant to the control room of the Power Purchaser.

### **Article-13** **Provision of Information**

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



### **Article-14** **Emissions Trading /Carbon Credits**

The Licensee shall process and obtain expeditiously the Carbon Credits admissible to the generation facility/Hydel Power Plant. The Licensee shall share the said proceeds with the Power Purchaser as per the Policy.

**Article-15**  
**Design & Manufacturing Standards**

The photovoltaic cells and other associated equipment of the generation facility/Hydel Power Plant shall be designed, manufactured and tested according to the latest IEC, IEEE standards or any other equivalent standard in the matter. All the plant and equipment of generation facility/Hydel Power Plant shall be unused and brand new.

**Article-16**  
**Power Curve**

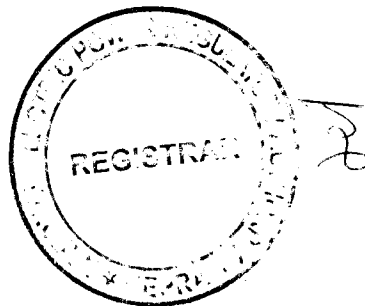
The Power Purchaser shall verify the power curve of the generation facility of the Licensee, as part of the Commissioning tests according to the latest IEC/IEEE standards and shall be used to measure its performance.

**Article-17**  
**Compliance with Applicable Law**

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

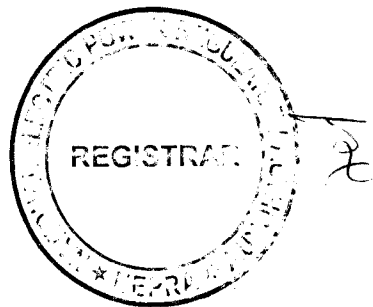
**Article-18**  
**Corporate Social Responsibility**

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



### SCHEDULE-I

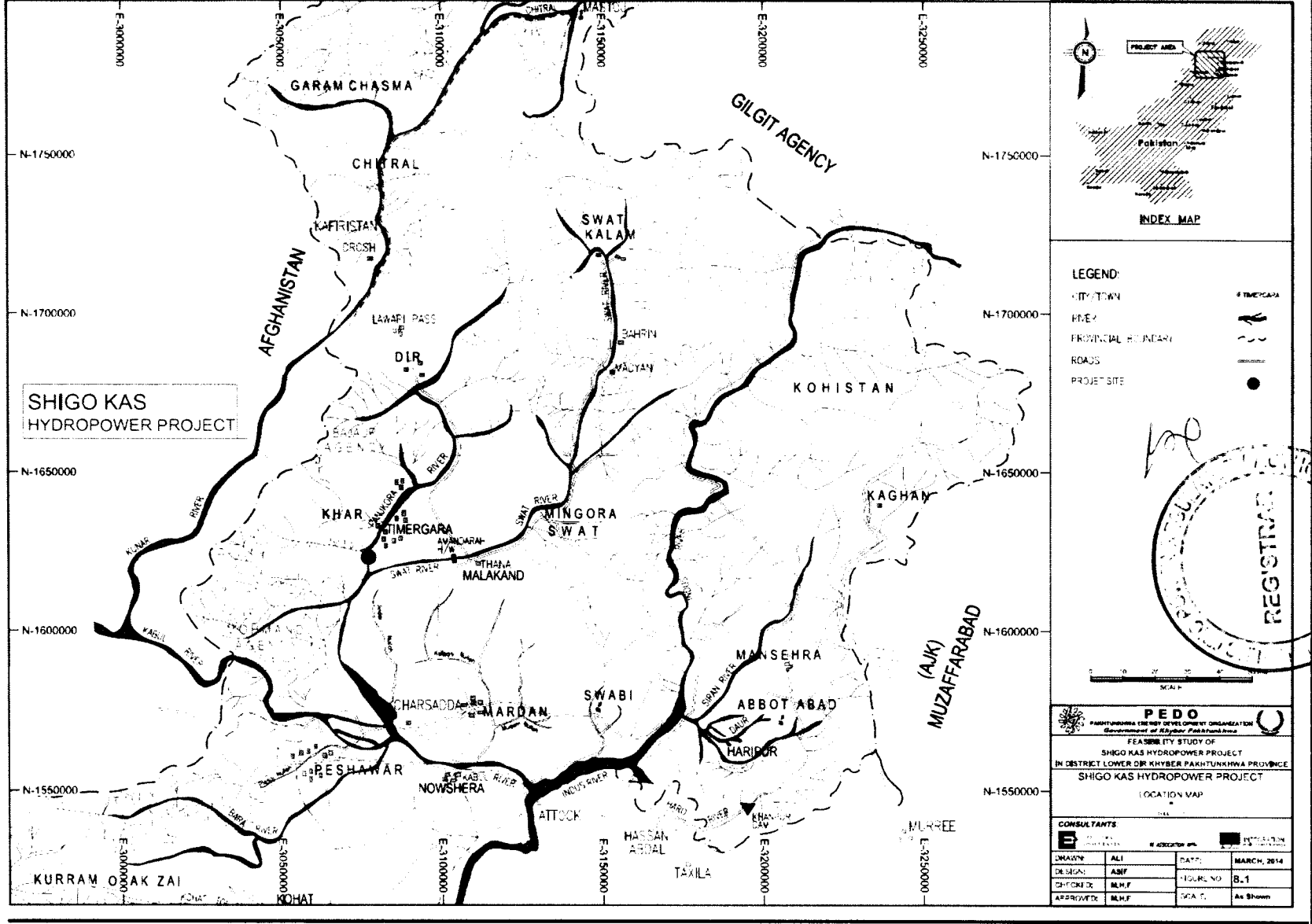
The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule.



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Generation Licence  
 Saifco Hydropower Limited  
 Village Shigo Kas, Tehsil Timergara  
 District Lower Dir  
 in the Province of Khyber Pakhtunkhwa

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



<b>PEDO</b> <small>PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION    Government of Khyber Pakhtunkhwa</small>			
FEASIBILITY STUDY OF SHIGO KAS HYDROPOWER PROJECT IN DISTRICT LOWER DIR KHYBER PAKHTUNKHWA PROVINCE SHIGO KAS HYDROPOWER PROJECT (LOCATION MAP)			
CONSULTANTS			
DESIGNED BY:	ALI	DATE:	MARCH, 2014
DRAWN BY:	AMF	FIGURE NO:	B.1
CHECKED BY:	M.H.F	SCALE:	As Shown
APPROVED BY:	M.H.F		

*[Handwritten signature]*

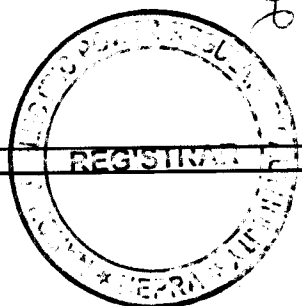
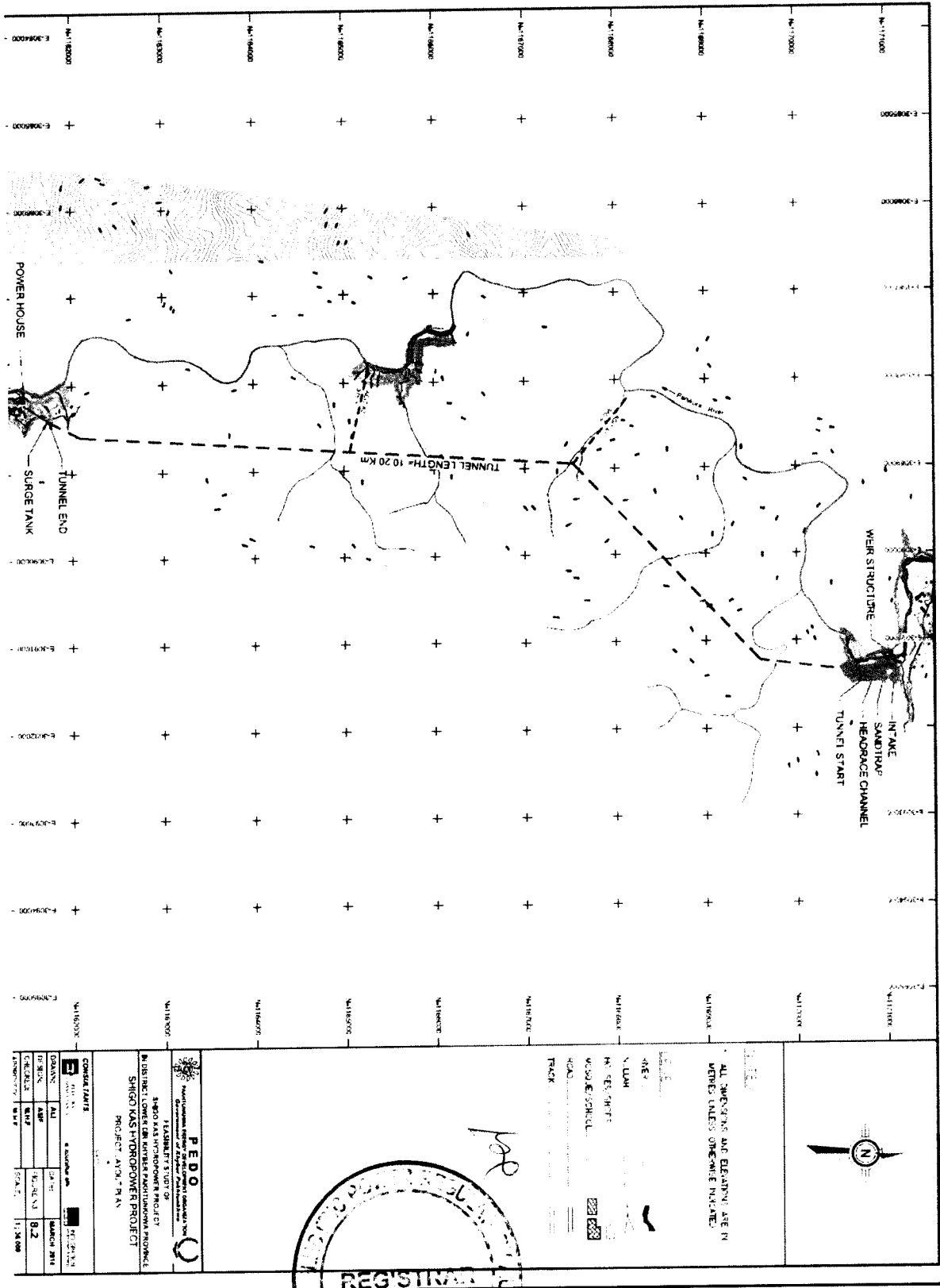
**Location of the  
Generation Facility/Hydro Power Plant  
of the Licensee**



REGISTRATION  
SAIFCO HYDROPOWER LIMITED  
102

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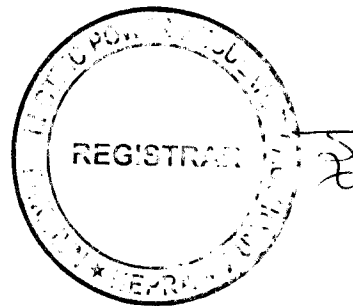
**Project Layout Plan of the  
 Generation Facility/Hydro Power Plant  
 of the Licensee**



<p><b>PEDO</b>                  Provincial Engineering Department                  Government of Khyber Pakhtunkhwa</p>	
<p>TECHNICAL SUPERVISOR                  SHIGO KAS HYDROPOWER PROJECT</p>	<p>PROJECT ARCHITECT                  SHIGO KAS HYDROPOWER PROJECT</p>
<p>DATE: 15/11/2009</p>	<p>SCALE: 1:10,000</p>

**Coordinates of**  
**Start of the Intake and Powerhouse of the Generation**  
**Facility/Hydro Power Plant of the Licensee**

Site	Latitude	Longitude
Weir Intake	34°-45'-33.3"	71°-48'-18.2"
Powerhouse	34°-45'-12.2"	71°-47'-58.6"



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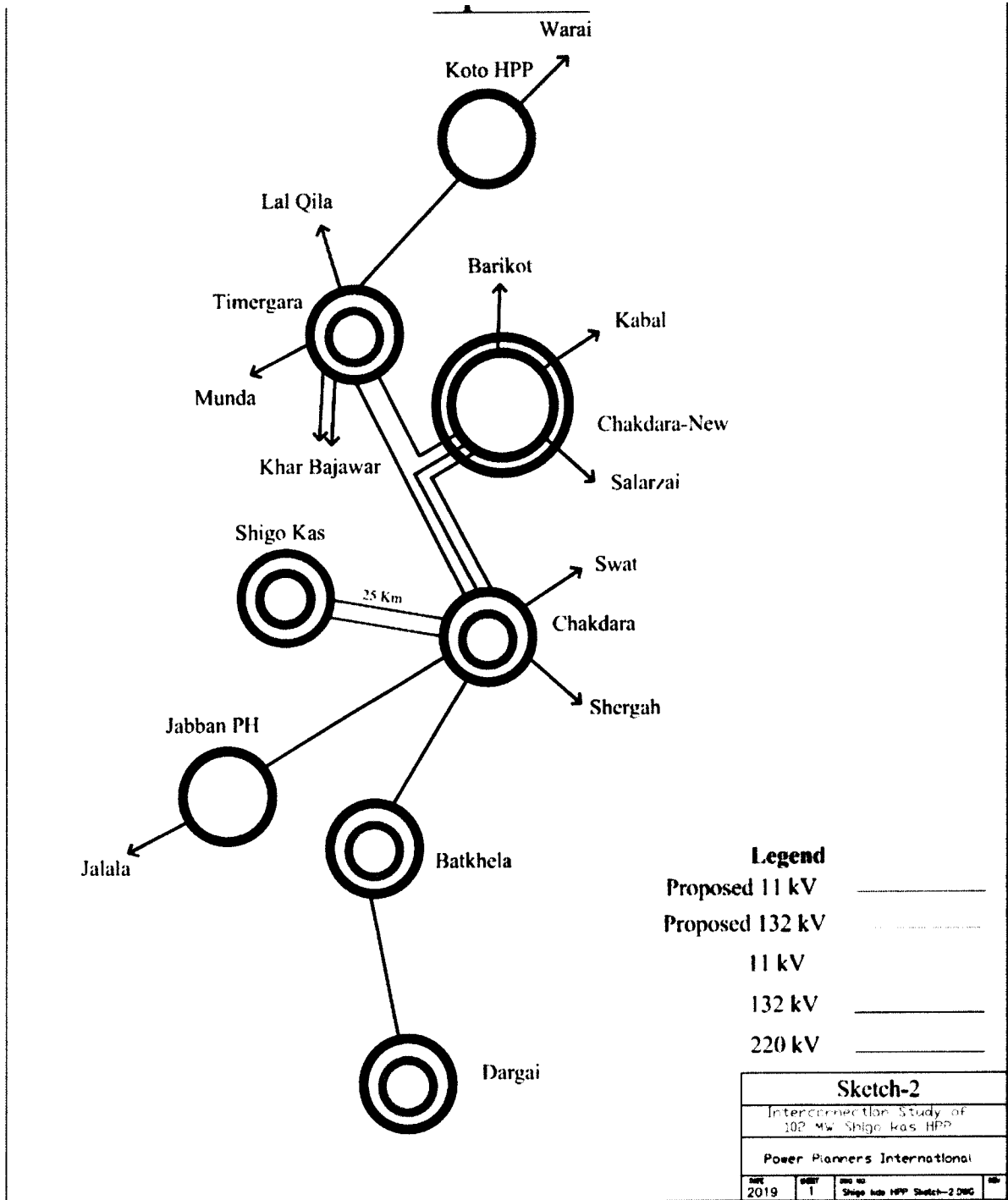




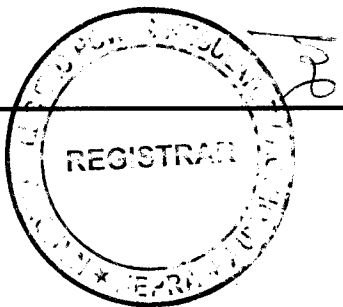




**Schematic Diagram of the Interconnection  
 Arrangement/Transmission Facility for Dispersal of Power from  
 the Generation Facility/Hydro Power Plant of the Licensee**



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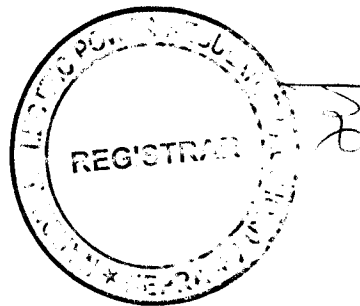
**Interconnection Arrangement for  
Dispersal of Electric Energy/Power from the Generation  
Facility/Hydro Power Plant of the Licensee**

The electric power generated from the generation facility/Hydro Power Plant of the Licensee/Saifco Hydropower Limited/SHPL shall be dispersed to the load centre of PESCO.

(2). The proposed Interconnection Arrangements/Transmission Facilities for dispersal of power from generation facility/Hydro Power Plant of the Licensee/SHPL will consist of the following: -

(a). A 132 kV D/C transmission line (measuring approx. 25.00 km long on ACSR RAIL Conductor) connecting the proposed generation facility/Hydro Power Plant with 132 KV Chakdara Grid Station of PESCO;

(3). Any change in the above Interconnection Arrangement/Transmission Facility duly agreed by Licensee/SHPL and PESCO, shall be communicated to the Authority in due course of time.



**Detail of**  
**Generation Facility/Hydro Power Plant**  
**of the Licensee**

**(A). General/Business Information**

(i).	Name of Company/ Licensee	Saifco Hydropower Limited
(ii).	Registered Office of Company/ Licensee	Office Galleria Islamabad, Plot No. 12, I-8 Markaz, Islamabad
(iii).	Business Office of Company/ Licensee	-Do-

**(B). Type & Location**

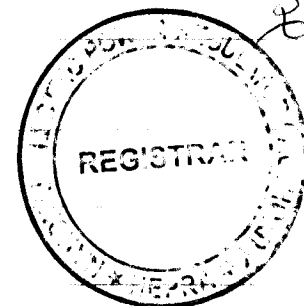
(i).	Type of the Generation Facility	Run of River Hydel Power Plant
(ii).	Location of the Generation Facility Hydro Power Plant	10-Km downstream of Town of Timergara Near the Village Shigo Kas, Tehsil Timergara, District Lower Dir in the Province of Khyber PakhtunKhw

**(C). Water Source**

(i).	Name of River	River Panjkora
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**(D). Capacity & Plant Factor**

(i).	Installed Capacity Electrical	102.00 MW
(ii).	Average Annual Plant Factor	58%
(iii).	No. of Units generated per annum	520 GWh



**(E). Hydrology**

(i).	Catchment Area	5816 km <sup>2</sup>
(ii).	Design Discharge	150 m <sup>3</sup> /s

**(F). Working Head**

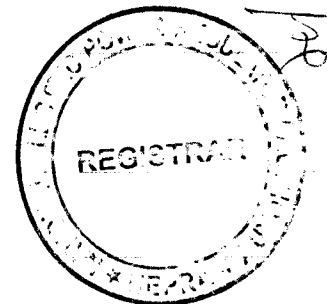
(i).	Normal Head Water Level	650 masl
(ii).	Tailrace Water Level	558.5 masl
(iii).	Gross Head	91.5 m
(iv).	Net Head	78.5 m

**(G). Diversion Weir**

(i).	Type of Intake	Gated (3 Nos. Each Gate 5.8m x 3.5m)
(ii).	Height Above River Bed	11 m
(iii).	Length of the Overflow Crest	25 m
(iv).	Gated Section with stilling basin	56 m with 4 radial gates (10m x 12m)
(v).	Sluicing section (Gated Section with roller bucket)	28 m with 2 radial gates (10m x 12m)
(vi).	Type of Energy Dissipater	Stilling Basin Type II
(vii).	Stilling Basin Length	75 m

**(H). Sand Trap**

(i).	Number of Chambers	3
(ii).	Total Width of Sand Trap	53.5 m



(iii).	Length of Sand Trap	115 m
(iv).	Height of Chamber	09 m

**(I). Headrace Channel**

(i).	Section	Rectangular
(ii).	Length	65 m
(iii).	Bed Width	18 m
(iv).	Height	8 m
(v).	L-Slope	1:1000

**(J). Headrace Tunnel**

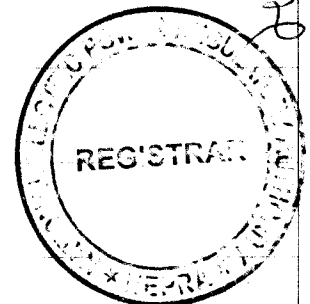
(i).	Section	Horseshoe
(ii).	Length	10.22 km
(iii).	Lining	Concrete
(iv).	Diameter	7 m
(v).	L-Slope	1:500

**(K). Surge Shaft**

(i).	Diameter	20.00 meter
(ii).	Height	42.00 meter

**(L). Power House**

(i).	Type	Surface
(ii).	Size (l x w x h)	73m x 35m x 36m
(iii).	No. of Turbines	3
(iv).	Type of Turbine	Francis vertical
(v).	Rated Turbine Capacity	35.40 MW
(vi).	Each Unit Discharge	50 m <sup>3</sup> /s
(vii).	Minimum Unit Discharge	19.8 m <sup>3</sup> /s
(viii).	Unit efficiency at rated discharge	92.0%



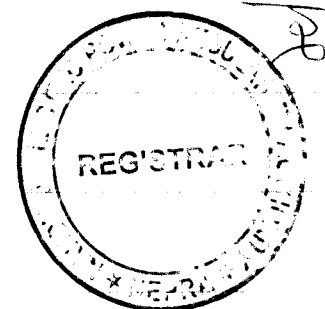
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(ix).	Turbine Speed	272.7 r.p.m.
(x).	Runner outer diameter	2.46 meter
(xi).	Runner weight	10.6 ton
(xii).	Turbine setting	approx. -3.3 m
(xiii).	Valve type	Butterfly type
(xiv).	Design head	78.50 meter
(xv).	Approximate diameter	2.75 m
(xvi).	Sealing system, main seals	Steel / Carbon Steel

**(M). Generators**

(i).	Number of units	3 No.
(ii).	Type of construction	IM8425/W41
(iii).	Rated output	34 MW
(iv).	Synchronous condenser operation	not required
(v).	Rated speed	272.70 r.p.m.
(vi).	Runaway speed	504.00 r.p.m.
(vii).	Direction of rotation	anticlockwise when viewed from top
(viii).	Rated power factor	0.85 lagging
(ix).	Rated frequency	50 Hz
(x).	Rated voltage	11 kV

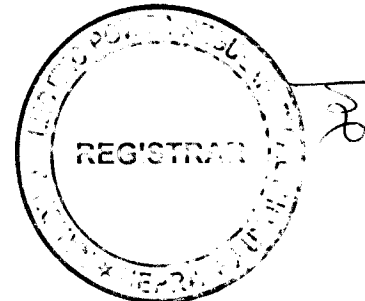


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(xi).	Rated range of voltage regulation	5.00 %
(xii).	Range of frequency variation	3.00 %
(xiii).	Insulation class Rotor/Stator	F/F
(xiv).	Stator winding connection	Star (Y)
(xv).	Protection class	IP 44

**(N). Other Information**

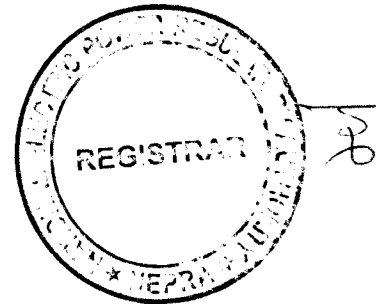
(i).	COD of the Generation Facility/Hydel Power Plant	March 30, 2024 (Expected)
(ii).	Expected Minimum Useful Life of the Generation Facility from COD	30 Years



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**SCHEDULE-II**

The Total Installed Gross ISO Capacity (MW), De-Rated Capacity At Reference Site Conditions (MW), Auxiliary Consumption (MW) and the Net Capacity At Reference Site Conditions (MW) of the Generation Facility/Hydro Power Plant of Licensee is given in this Schedule



A small handwritten signature enclosed in a rectangular box.

## SCHEDULE-II

(1).	Total Installed Gross Capacity of the Generation Facility/Hydel Power Plant (3 x 35.40 MW Francis Turbine)	106.20 MW
(2).	Total De-Rated Capacity of the Generation Facility/Hydel Power Plant at Mean Site Conditions (3 x 35.40 MW Francis Turbine)	106.20 MW
(3).	Total De-Rated Capacity (Electrical) of the Generation Facility/Hydel Power Plant at Mean Site Conditions (2 x 34.00 MW Francis Turbine)	102.00 MW
(4).	Auxiliary Consumption of the Generation Facility/Hydel Power Plant (3 x 0.027 MW Francis Turbine)	001.02 MW
(5).	Net Capacity of the Generation Facility/Hydel Power Plant at Mean Site Conditions Condition (3 x 33.66 MW Francis Turbine)	100.98 MW

### Note

All the above figures are indicative as provided by the Licensee. The Net Delivered Energy available to Power Purchaser for dispatch will be determined through procedures contained in the Energy Purchase Agreement (EPA) or the Applicable Document(s).

