SSJD BIOENERGY

For info pl.

AD(MR)+PA.

November 30, 2011

Ref. no. SS-22-011

The Registrar,
National Electric Power Regulatory Authority
OPF Building, 2nd Floor, Sector G-5/2,
Sharah-e-Jamhuriat, Islamabad.

Subject: Application for Tariff Approval – 12MW Biomass Power Project near Mirwah Gorchani town, district Mirpurkhas, province of Sindh

Dear Sir,

We are much pleased to submit that M/s. SSJD Bioenergy Limited (the "Company") incorporated under the laws of Pakistan and sponsored by SSJD Energy LLC, incorporated under the laws of Delaware, USA, intends to build, own and operate a 12MW (gross) biomass power plant under the Alternate Energy Development Policy, Government of Pakistan. The power plant will be located near Mirwah Gorchani Town, district Mirpurkhas, province of Sindh. In this regard, Alternate Energy Development Board (AEDB) has issued a Letter of Intent (LOI) to the Company on September 17, 2010 and approved the Feasibility Study on July 29th 2011, vide it's letter no. B/3/21-Gen/2010 copy enclosed for reference.

We attach herewith petition for determination and approval of the generation tariff pursuant to Rule 3 of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules 1998, read with paragraph 1.3 of the guidelines for Determination of Tariff.

Original letter of Application for tariff of SSJD Bioenergy received

Registrar
Dy. No. 6805
Dated 01-12-11

GOL 004

Plot # 10-11, Hassan Ali Street, Off I. Chundrigar Road, Karachi-74000
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The "Company" submits the following:

1. The Board Resolution
2. The Affidavit
3. The initialed EPC contract
4. The environmental study approval by EPA- Sindh vide it's letter no. EPA/2010/11/25/IEE/104/2011 dated January 6th 2011
5. The grants of a generation license by NEPRA vide it's letter no. NEPRA/LAG-182/4276-78 dated June 14th, 2011
6. NTDC Power acquisition request to NEPRA, for 12 MW (Gross), 10.48 MW (Net) Biomass Power Plant at Mirwah Gorchani Town, District Mirpurkhas, Sindh, vide letter No. CPPA/MT-111/F-153/84-87 dated: 25-11-2011.
7. Bank draft No. 0028558 dated: 17-11-2011, the requisite fee prescribed by NEPRA for consideration of the Tariff Petition.

The term of the Power Purchase Agreement will be 30 years. The tariff has been calculated based on the assumptions in accordance with the Federal Government's Policy for Power Generation Projects (IPPs), 2002 and the guidelines issued there under, with similar assumptions in line with the tariff determined by NEPRA for power co-generation by sugar industry.

We would be grateful if the learned Authority expeditiously finalizes the tariff determination process to enable the Company to move ahead with the Project, as our foreign lender, Overseas Private Investment Corporation (OPIC) is awaiting approval of tariff from NEPRA. We would be pleased to provide any further information that may be required by the learned Authority prior to or during the course of the hearing.

Sincerely Yours,

Junaid Qurashi
Chief Executive Officer
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BEFORE

THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

PETITION FOR TARIFF DETERMINATION

IN RESPECT OF

APPROXIMATELY 12MWBIOMASS POWER GENERATION PROJECT

NEAR

MIRWAH GORCHANI TOWN, DISTRICT MIRPURKHAS

PROVINCE OF SINDH

November, 2011

GLOSSARY

AEDB	Alternate Energy Development Board
Company	SSJD Bioenergy Ltd.
CPI	Consumer Price Index
CPPA	Central Power Purchasing Agency of NTDC
COD	Commercial Operations Date
EPA	Energy Purchase Agreement
EPC	Engineering Procurement and Construction
EPR	Energy Purchase Risk
FSA	Fuel Supply Agreement
GCV	Gross Calorific value
IA	Implementation Agreement
IMF	International Monetary Fund
IPP	Independent Power Producer
IRR	Internal Rate of Return
KIBOR	Karachi Inter Bank Offered Rate
KV	Kilovolt
KW	Kilowatt
KWh	Kilowatt Hour
L/C	Letter of Credit
LCV	Lower Calorific Value
LIBOR	London Inter Bank Offered Rate
LOS	Letter of Support
LDs	Liquidated Damages
MW	Megawatt
MWh	Megawatt hour
NEPRA	National Electric Power Regulatory Authority
NTDC	National Transmission and Dispatch Company Limited
O&M	Operation and Maintenance
OPIC	Overseas Private Investment Corporation – USA
Pak. Rs.	Pakistani Rupees
PPIB	Private Power & Infrastructure Board
Project	Biomass Fueled Power Generation Facility of approximately 12MW
RE IPP	Renewable Energy Independent Power Producer
ROE	Return on Equity
Ton	Metric Ton (1000 kg)
USD	United State Dollars
WAPDA	Water and Power Development Authority
WPPO	WAPDA Power Privatization Organization
PURCHASER	CPPA / NTDC

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A. PARTICULARS OF PETITIONER

Name and Address of the Petitioner

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B. INFORMATION SUMMARY

1. Generator name	:	HTC – China or Equivalent
2. Location	:	Near Al-Abbas Sugar Mills Mirwah Gorchani, district Mirpurkhas Province of Sindh
3. Total Project Cost	:	US $19.82 million
4. Technology	:	Conventional steam power cycle
5. Installed capacity	:	12000KW (gross)
6. Plant auxiliary load and losses	:	1520 KW
7. Net electrical output	:	10480 KW
8. Plant detail		
a) Make	:	HTC / WUXI – China
b) Model	:	N.A
c) Configuration	:	Traveling grate boiler biomass fired Steam turbine, condensing cum extractions type , and generator set.
9. Net efficiency at 100% load	:	24.3 %
10. Availability factor	:	80%
11. Annual available energy	:	73443840 kWh
12. Debt / Equity ratio	:	70 : 30
13. Construction start	:	4 months from the date of Tariff Determination
14. Expected time of Commercial Operation Date (COD) of the Generation Facility	:	20 months after Financial Closing

C. MAIN BODY OF THE TARIFF PETITION

1.0 Background

1.1 Introduction of SSJD Bioenergy Ltd. and the Group.

1.1.1 SSJD Energy LLC Group is a registered company in United States of America; its office is 25W, Portola Ave, Los Altos, CA 94022, USA. The group will be the leading developer of independent energy supplier on indigenous fuel and renewable energy in Pakistan. Its aim is providing sustainable energy to Pakistan thus helping the country to overcome power crises, contribute renewable energy in power generation mix and limit the dependency on imported fuel.

1.1.2 SSJD Bioenergy Limited is a Project Company, a subsidiary of SSJD Energy LLC Group - USA, incorporated in July, 2010 under the Companies Ordinance, 1984 (under certificate of incorporation no. 0073147, dated July 19, 2010). The core activity of the Company is to install biomass energy based power projects, generate, and sell electricity.

1.1.3 The Company intends to develop a biomass power generation facility (the "Project") and plan to construct 12MW power plant. The project will be located near Al-Abbas Sugar Mills Limited in Mirwah Gorchani town, district Mirpurkhas, province of Sindh, and will mainly utilize surplus bagasse available from sugar mills located within 50km, and other biomass available in the environ of Project Site.

1.2 Milestone achieved towards the Project Implementation

1.2.1 The Project has been registered with AEDB / GOP pursuant to the policy for development of renewable energy project in Pakistan. AEDB issued LOI to the Company on September 17, 2010 for construction of 12MW (gross) capacity biomass

to energy generation project at Mirwah Gorchani, district Mirpurkhas, province of Sindh.

1.2.2 Company submitted application to Overseas Private Investment Corporation (OPIC) on June 21st 2010 for financing the Project and received approval for full application submission on July 18th 2010.

1.2.3 The Company carried out the Feasibility Study and Environmental Study in accordance with the terms and conditions stipulated in the LOI, and submitted the reports to AEDB on October 25, 2010.

1.2.4 AEDB vides letter ref. no. B/3/1/FFC/07 dated December 27th, 2010, advised the Company to proceed with the Tariff Petition and file application for Generation License with NEPRA.

1.2.5 The approval of Environmental Report has been issued by EPA – Sindh vide its letter ref. no. EPA/2010/11/25/IEE/104/2011 dated January 6, 2011, copy enclosed.

1.2.6 In November, 2011, OPIC Screening Committee accord its approval to OPIC team to carry out due diligence of the project. OPIC project team visited Pakistan in February, 2011, had meetings with SSJD Bioenergy Limited, Ministry of Water and Power, and Alternate Energy Development Board. All relevant agencies gave full assurance to OPIC team to provide all supports for investment in this project.

1.2.7 Submitted application to NEPRA for grant of Generation License on March 08, 2011. NEPRA vide letter NEPRA/LAG-182/4276-78 dated June 14, 2011 intimated that Generation License no. IGSPL/31/2011 has been granted to SSJD Bioenergy Limited for its 12MW biomass power plant.

1.2.8 AEDB vides its letter no. B/3/21-Gen/2010 dated July 29, 2011 conveyed the approval of Feasibility Study by Panel of Expert (POE).

1.2.9 The Company has finalized EPC Contract in November, 2011, and initialed the Offshore Supply Contract and Onshore Supply & Service Contract with the Orient Energy Systems (OES)-Pakistan, being one of the fastest growing companies in Pakistan specializing in engineering services and solutions with particular reference to power.

1.3 Legal Regime

1.3.1 Under the Regulation of Generation, Transmission and Distribution of Electric Power Act (Act No. XL) 1997 (the "NEPRA Act") the Authority is mandated to determine tariffs and other terms and conditions for the supply of electricity through generation, transmission and distribution.

1.3.2 This Tariff Petition is being field before National Electric Power Regulatory Authority (the "NEPRA" or the "Authority") pursuant to Rule 3 of the NEPRA (Tariff Standards & Procedure) Rules, 1998, read with paragraph 1.3 of the Tariff Guidelines, and applicable provisions for development of renewable energy for power generation (the RE Policy), AEDB, Government of Pakistan.

The proposed energy tariff will be for thirty (30) Agreement years, and is computed for the net electrical energy available for sale after taking into account plant auxiliary load, parasitic load, and transformer losses etc. and at 80% plant availability, and at net electrical output of 10480 kW.

Tariff Structure (the "Reference Tariff") adopted for sale and purchase of electrical energy is on bulk power purchase tariff for grid connected RE, IPP's and is reflected on the Energy Charge i.e. in Rs/kWh, however the calculation of the proposed energy tariff in this petition are similar to tariff as allowed to thermal IPP's.

This Tariff together with indexation and invoicing of Energy Charge payments for all electrical energy available will be integrated into the Energy Purchase

Agreement (the "EPA") to be entered into between SSJD Bioenergy Ltd. and Purchaser and shall be on the format of EPA specific for biomass fueled power generation projects. All incentives available to RE IPPs under the policy for renewable power generation projects would also be available to power generation facility on biomass fuel.

1.3.3 If SSJD Bioenergy Ltd. biomass power generation project is given incentives in terms workable tariff, and the actual tariff revenue match with the project revenue requirement, and accepted by OPIC - USA, the financing agency of the project, this project will be implemented on fast track.

2.0 PROJECT PROFILE

2.1 Project Site

The power generation facility shall be constructed near one of the largest sugar million Sindh province, namely Al -Abbas Sugar Mills located in Mirwah Gorchani Town, district Mirpurkhas. Approach to Site is 145km from Karachi port city and 90km from Hyderabad, the plant will be ideally located off the main road. The biomass power plant is proposed to be constructed on 12 acres land. Site will be fully developed for construction without hindrances. Access roads to the Site will be constructed for mobilization of machinery and construction material.

2.2 Water Supply

The source of water supply to the plant will be from Kachaa water course supplying water to the adjacent Al-Abbas Sugar Mills and surrounding fields, tapped from Gorchani minor canal which is the branch canal of major Jamrao canal in district Mirpurkhas at about 12km from the project site. Water from the dedicated point will be drawn and pumped to the main water reservoir within the plant. A comprehensive water plan for backup water supply will be developed to available water for plant operation when canal water supply is curtailed or interrupted.

2.3 Power Evacuation

All net electrical energy available will be exported to HESCO network at 132 KV voltage level, the nearest Grid Station is Mirwah Gorchani which is located at approximately 3 km from Project Site. Interconnection scheme will be designed in consultation with NTDC technical team and constructed by the Project Sponsor and the Energy Purchaser as per provision of the Energy Purchase Agreement (EPA).

2.4 Benefits Associated with the Project

- While GOP is exploiting all means to overcome the acute shortage of power faced by the country, the proposed power generation plant utilizing biomass as fuel would be an attractive option and will contribute in the power generation mix to overcome the shortage of power, thus providing fuel security and saving of foreign exchange on import of fuel.

- The plant will burn mainly bagasse and other biomass such as rice husk, cotton stalks, wood chips etc. for plant operation round the year at 80% plant availability, the biomasses will be consumed as per requirement of the plant without any limitation of interchangeability. The Plant is located near Al-Abbas Sugar Mills which would be a primary source of biomass fuel supply.

- Stabilize system voltage as the power generation facility is ideally located in the proximity of 132KVgrid, all power to the consumers from this grid will directly fed from this plant thus reducing line losses.

- The electricity supplied to the grid system from the biomass power generation plant will be comparatively cheaper than current purchases from RFO fueled power plants, when comparing 12MW biomass power plant with RFO fueled power plants, this will result in fuel cost saving to the Purchaser more than US $ 5.0 million per annum.

- The project has potential to create jobs in power sector and associated industries and employment of quiet a large number (more than 500) of unskilled man power in remote areas; this will ease the life of the poor people in these areas.

2.5 Technology Option and Plant Configuration

The selected technology for the project is well proven for power generation on

biomass fuel and is in practice worldwide. The biomass gasification technology is also one with gas engines limited to small scale power generation, the specific cost/MW is approximately double, and the technology still not attained full-scale commercial exploitation. The only best option available for using the biomass fuel is through the direct combustion process in the boiler, the boiler combustion technologies available from manufacturers are traveling grate, vibrating grate, moving grate, and fluidized bed combustion. The selection of combustion technology for smaller capacity of biomass application is critical as the technologies have merits and demerits in terms of combustion efficiency, boiler auxiliary power requirement, and high cost with particular reference to fluidized bed combustion technology. The power plant in this case shall be designed on the conventional steam power cycle (the Rankin cycle). The biomass will be combusted in a boiler and steam generated will be fed to the steam turbine to generate power. To enhance the efficiency of operation, multiple extractions for feed heating and de-aeration process are generally used in the feed water circuit.

Various small power generating units are available with different design steam parameters and type of the steam turbine. Generally performance of steam power cycle improves with rising throttle steam pressure/temperature and lower exhaust pressure so the selection of steam parameters for optimal thermal efficiency is a matter of high importance. Typically small steam turbine units in capacity range 5-15MW are preferably installed in biomass power plant due to cost limitation on transportation of biomass, some steam turbines are without extraction, some are with extraction tapped from stages in the turbine to pre-heat feed water being returned to the boiler. Selected steam parameters mainly depends on the design and manufacturing of major equipment supplier, majority of the equipments offered for small units are in the range of 57-87 bar steam pressure, 480-520 °C steam temperature, and with single or multiple steam extractions.

2.6 Project Detail

The power generation facility shall be designed for firing multiple biomass fuel in the boiler. The plant shall consist of one (1) no. steam boiler designed for rated steam output of 55tph, 87bar steam pressure at superheater outlet and 520°C temperature, single drum, natural circulation, balanced draft, water tube type. The combustion system is traveling grate with stoker fired, the boiler will be equipped with flue gas cleaning system i.e. electrostatic precipitator (ESP) expensive equipment to control dust emission as per requirement of the World Bank Standards for dust emission, and continuous ash discharge system to ash silos and final disposal to landfill. Multistage, condensing cum extraction type steam turbine coupled with generator through reduction gear, having nominal gross capacity of 12MW.

Balance of the plant equipment comprises of steam condensing unit, multi cell cooling tower induced draft type, water treatment system, complete electrical system, and DCS system for reliable operation of the power plant. The design shall include the following:

- Fuel storage and handling: biomass storage shall comprise of ninety (90) days open yard, three (3) days covered storage, truck weighing bridge, truck dumping system, front end pusher, and fuel transfer conveyor to boiler bunker or silos.
- Fuel handling and dozing: system includes boiler transfer conveyor, returned conveyor, upper fuel chutes, and fuel dozing for combustion in the boiler.
- Ash removal and handling: system includes the equipment required for upper grate ash removal, submerged ash conveyor, ash silos, fly ash conveying system, silo and ash unloading.
- Condensate and feed water system.
- Water treatment system.
- Circulating water system.

- Waste water treatment system and effluent discharge to the point of discharge.
- Compressed air system.
- Generator transformer 11/132 KV, 15 MVA rated capacity
- Auxiliary transformer of 11/0.4kV, 2.5 MVA rated capacity.
- 11KV bus arrangement for housing incoming generator breaker, generator transformer breaker, auxiliary transformer breaker.
- 132 KV outdoor switch yard designed for single bus bar scheme with the provision of three (3) line bays.
- Instrumentation & control, PLC control, and DCS main control station.
- 250 KVA emergency diesel generator set.
- Fire hydrant and fire protection system.

2.7 Overall Plant and Energy Balance

The plant will be designed, manufactured, installed and commissioned per internationally accepted practices and standards. The plant's estimated key performance data and energy balance is set out below;

Gross Output	12000 KW
Estimated Auxiliary Load	1520 KW
Net Electrical Output	10480 KW
Net Heat Rate (LHV)	14040 btu/kWh
Plant Net Efficiency (LHV)	24.3%
Bagasse Calorific Value (LHV)	6905 btu/kg
Annual Operating Hour (at ~ 80% availability)	7008
Annual Available Electrical Energy	73443840 kWh
Annual Biomass Consumption	140000ton
Annual Bagasse Consumption	120000 ton

The net electrical output and net heat rate assumed for the Tariff calculation is derived from performance levels guaranteed in the EPC Contract, an insignificant

margin on net heat rate is taken for increase of biomass consumption due to fouling on boiler tubes and variations of operating conditions during operation. These performance losses are quiet normal for all power plants operating continuously till the maintenance outages are scheduled. The performance (net output and net heat rate) degradations factor will be reflected in the EPA as allowed to IPPs.

It is pertinent to mention, the biomass fueled power plant for the round year operation is generally of smaller capacity, unit efficiency is lower due to smaller unit, limitation of steam power cycle, limitation of steam parameters, biomass characteristics, and fuel firing system constrains, so its efficiency should not be compared with a larger capacity of steam power plant or with Combined Cycle Gas Turbine (CCGT) power plant. However the proposed power plant is quiet feasible for utilizing biomass fuel a renewable energy sources which are being encourage worldwide in the energy mix, reliable, proven for 30 years life cycle, and competitive among the typical biomass power generating units operating worldwide, still this plant will provide benefits to the energy purchaser and the country in utilizing renewable energy sources in the wake of nationwide fuel crisis.

2.8 Biomass Procurement Strategies

Bagasse is main biomass fuel which is the refuse from the milling of sugar cane in sugar mills. There are five sugar mills operating in the environs of the project site and two more are under construction. A strategic plan for procurement will be developed to available bagasse and other biomass such as rice husk and cotton stalk so that the plant could be operated at approx. 80% plant availability in an agreement year. In order to maintain a reliable biomass supply a sale and purchase agreement with two or more sugar mills will be signed. Al-Abbas Sugar Mill which is across the plant will be supplying larger portion of the bagasse for the power plant operation, the rest of requirement which is rice husk and other biomass will be mix fuel contributing 20% of the total consumption. Rice husk supply arrangement shall be made from the rice mills which are operational in 100 km radius. Cotton is another major crop in the environ of the plant area, cotton stalks can be resourced

by arranging, cutting, and chopping units at major field and engaging local man power to available cotton stalks which will also be burned in the boiler.

3.0 FINANCING PLAN / EPC CONTRACTS

The project will be funded typically by a combination of debt and equity. Debt is 70% of the Project cost and the remaining funds will be invested through equity contributions by the investors.

The Company is vigorously working with OPIC-USA a private financing institution to attract their interest in providing fund for this project. OPIC being potential financier is very supportive to finance this project in Pakistan as their prime interest is to encourage renewable energy projects. OPIC is now committed to finance this project and has appointed Lahmeyer International-USA an Independent Engineer, and Legal Consultant for project due diligence and reviewing of all project related documents.

The petitioner submits, inline with the requirement of NEPRA to base its determination on firm (non-reopenable) EPC price signed or initialed EPC Contracts by the Company and EPC Contractors. The Company invited proposal from prospective contractors through bidding by issuing standard RFP document inline with the Project Technical Requirement and Design Basis for biomass fueled power plant. Proposals from foreign and local contractors were received, technically and commercially evaluated. All foreign contractors quoted high cost for EPC, in some cases US $ 30.0 million. Descon Engineering and Orient Energy Systems being the local contractors also submitted proposal for EPC works at comparatively lower cost than foreign contractors. The Company however after a great deal of exercise has been able to finalize and initial the EPC contracts with Orient Energy Systems - Pakistan at the lump sum price of US $ 15.12 million.

Orient Energy Systems qualify and accepted by Lender consultant as EPC Contractor for this project as they have done several projects in Pakistan and

abroad, the Contractor will have engineering support of Avant-Garde, Engineer and Consultants (P) Ltd. India, a consulting company well established and have experienced experts specialized in designing of the biomass fuel power plant.

It is pertinent to mention that mostly the contractors were not excited to participate in bidding and were hesitant to invest time for submitting detail EPC proposal and holding price too long, their main concern was the time when notice to proceed will be given once contract is awarded, they were aware of the process for Tariff determination and finalization of other project documentation which would normally take longer time and the contract price would be difficult to hold.

4.0 CONSTRUCTION SCHEDULE

The Project is expected to achieve Financial Closing by Q1-2012 and Commercial Operations Date (COD) by Q1-2014, i.e. within 24Months from the issuance of Letter of Support (LOS).

5.0 PROJECT FINANCIALS

5.1 Capital Structure

The capital structure of the project is outlined as follows:

Description	US $ Million
Project Cost	19.82
Debt : Equity Ratio	70 : 30
Debt	13.874
Equity	5.946

5.2 Project Cost

The breakdown of the project cost is summarized as follows:

Description	US $ Million
EPC Cost	15.12
Non EPC Cost	0.48
Staff Colony	0.10
Land Acquisition & Land Development Costs	0.54
Project Development Cost	0.935
Startup Expenses & Utilities	0.160
O&M Mobilization Cost	0.180
Insurance During Construction	0.370
Financing Fees & Charges	0.790
Emergency Spare Parts	0.10
Project Cost without IDC	**18.775**
Interest During Construction	1.0459
Total Project Cost with IDC	**19.82**

5.3 EPC Costs

The EPC cost is lump sum cost, and includes the cost of power plant together with supply of all machinery & equipment and systems, design, engineering, erection, commissioning & testing of equipment, constructions of plant buildings and all civil works. The scope comprises of boiler with auxiliaries, equipped with electrostatic precipitator (ESP), biomass fuel handling and firing system, bed ash and fly ash removal system. Steam turbine and condenser with auxiliaries, generator with accessories, water treatment system, cooling tower, circulating water system, 11KV bus bar with all equipments, 132 KV outdoor switch yard for

three (3) line bays with all necessary equipments as per requirement of Grid code. The civil work includes construction of the main buildings including three (3) days covered storage, structures, roads, warehouse, administrative building, and all civil works.

The EPC Contract is divided as Offshore Supply Contract and Onshore Supply & Service Contract.

Offshore Supply Contract:

This contract covers but not limited to the following;

The plant design detail engineering, procurement, manufacturing, and supply of all equipment & machinery, inspection & testing at manufacturer works, and shipping of equipment & machinery up to the port of import as per equipment delivery schedule and supervision of installation and commissioning by OEM supervisory staff.

Onshore Supply and Service Contract:

This contract covers but not limited to the following;

- Project management and execution responsibilities.
- Design and detail engineering of systems not covered in the Offshore Contract.
- Procurement and supply of materials and indigenous items
- The cost for the arrangements, execution of customs clearance, handling and transportation of plant equipment & machinery from port of import to the project site.
- Construction of all civil works.
- Installation of the equipment & machinery in accordance with the design and detail engineering.

- Start – up, testing and commissioning of the plant.
- Reliability run and performance test.
- Provision of utilities, temporary roads, drinking water and sanitary facilities, office and telephone facilities within the site, for effective execution of project work.
- Prevention of accumulation of hazardous material (s) on the plant site.

The petitioner further submits that EPC price so obtained is market based and is very reasonable for 12MW capacity biomass fueled power generating facility which requires much larger scope and infrastructure including all components/devices that requires limiting emissions levels particularly dust emission as per World Bank Standards for dust emission.

5.4 Non EPC Cost

This cost head covers the cost of items which are excluded in the EPC Contracts. Such cost includes the cost of raw water supply from source, open raw water reservoir, weighing bridge, open yard biomass storage, unloading facilities and transfer of biomass to covered storage building through mobile pusher units, effluent discharge system, and non industrial building such workshop & laboratory, admin & office buildings, roads, car parking, warehouse, and water &electricity connections.

5.5 Housing Colony Costs

Plant is located in the remote area far from the major cities. It is the requirement to available key staff at all time for emergency, so a small housing colony will be built in the plant; this will ensure safety & security of key personnel (including expatriates) and availability of maintenance staff for immediate support in case of unusual trouble in the plant or breakdown.

5.6 Land and Land Development Cost

This cost head mainly covers the purchase of land together with stamp duty, registration fees, broker fees, costs of earth work to level the site and construction of access road, temporary office, boundary walls, security posts, and main gate.

5.7 Custom Duties and Taxes

No custom duty on import of machinery & equipments is assumed, RE IPP's are exempted under the policy, and the petitioner has assumed taxes and any other levies in respect of Onshore Supply and Service Contract at the rate of 6% of the contract price. Any imposition of or change in duties, levies or taxes whatsoever in nature shall be incorporated and adjusted in the project cost at COD.

The Company prefers to include in the contractor scope the locally manufactured items as much as possible for construction and completion of the project. However, the contractor may not agree to some of the items as the construction of the power plants are generally designed, constructed, and commissioned with guarantees on turn key job basis. In light thereof, if the customs authorities impose customs duties or import taxes in excess of the tax assumption in this petition on account of certain equipment being treated as the one which is locally manufactured, then any excess custom duties and or import taxes paid by the Company will be adjusted in the project cost at COD.

5.8 Project Development Cost

The Project though of small capacity being developed under RE IPP's policy frame work will require a team of Experts and Consultants for its structure and development, the amount of work at the development stage is not less than to thermal IPPs above 50MW.

The Company has established a project team comprising of professionals,

engineers, and finance experts, legal consultant, and their services will be engaged throughout the execution phase.

The project development cost include all costs incurred so far including the cost of feasibility study, environmental study, generation license, office expenditures, travelling, payment to professional team, and will include the costs to be incurred for hiring of Owner's Engineer, Independent Engineer under the EPA, all fees paid to technical/legal/financial consultants, bank charges on the bank guarantees to be issued in favour of AEDB for obtaining LOS, legal fee to AEDB, and standby Letter of Credit in favor of the Energy Purchaser under the EPA, and any other specified fees payable to the AEDB and NEPRA. All company's administration charges and overheads during the project development and construction phase until COD are included.

5.9 Financing Fees &Charges

This includes the lender's Front-end Fee and the Commitment Fee and the fees of the lenders' advisors. These fees and charges are roughly 5-6% of the foreign debt amount which will be adjusted at COD as per actual.

5.10 Interest during Construction

This has been calculated, subject to actual adjustment, on the basis of payment schedules keeping in view the equity and debt injections together with the applicable interest/mark up rates. IDC will be subject to adjustment at actual Commercial Operations Date on the basis of actual drawdown of loans. The Petitioner has assumed 100% foreign debt from OPIC – USA, interest rate based on US treasury plus 3.5% margin.

5.11 O&M Mobilization and Other Costs

This covers the expenses of the O&M operator staff (both local and expatriates)

prior to start of Commissioning & Testing, and cost associated with the training of the staff during construction phase until COD, the cost also include the expenses of Company's office at Karachi and at Project Site (together with the establishment costs).

5.12 Start-up Expenses & Utilities

These are the cost not covered under the scope of the EPC contract; it includes costs associated with the fuel for commissioning& testing of the plant, the cost of fuel oil for initial firing of boiler, chemicals, consumables, and lubricants to be consumed during commissioning& testing together with utilities expenses (i.e. electricity, telephone, water). The current prices are assumed for this purpose, however, the cost of the fuel will be adjusted at the time of COD with respect to the then-prevailing fuel prices and actual electricity cost.

5.13 Insurance Cost During Construction

This covers the cost of insurances of the Facility during the construction phase and up to the COD. This is estimated at 1.35% of EPC costs and is in line with the Authority's ruling in other projects.

6.0 TARIFF SUMMARY

The Petitioner is submitting tariff on the basis of Energy Charge i.e. in Rs/kWh for a period of 30 years for the electrical energy available for dispatch to the grid computing fuel and variable cost components and fixed energy cost component of the tariff similar to thermal IPPs.

The fixed energy cost component will cover debt servicing, return on equity, return on equity during construction, fixed O&M cost, insurance, financial charges on working capital.

Fuel cost component is calculated on reference price of biomass excluding transportation cost, which will be pass through under the provision of EPA.

The prices of biomass fuel will be indexed using a typical indexation mechanism linked with imported coal pricing based on internationally traded indices.

The proposed Reference Tariff figures are as follows:

	Fixed Energy Cost		Variable Cost		Energy Charge	
	Rs/kWh	Cents/kWh	Rs/kWh	Cents/kWh	Rs/kWh	Cents/kWh
1 - 13 years	4.939	5.743	5.94	6.90	10.879	12.65
14 - 30 years	2.972	3.455	5.94	6.90	8.912	10.363
Levelized					10.394	12.086

The Reference Tariff table for the project is appended herewith as Annexes -1.

6.1 Variable Cost

The variable cost for dispatch of all net electrical output is measured in kWh, and consists of the following component;

- Fuel cost
- Local variable O&M
- Foreign variable O&M

A summary of the Variable Cost is provided in the table below followed by detailed explanation of each item:

	Fuel	Variable O&M (Foreign)	Variable O&M (Local)	Total
Tariff (Rs/kWh)	5.58	0.24	0.12	5.94
Tariff (cents/kWh)	6.49	0.279	0.139	6.9

6.1.1 Fuel Cost Component

The fuel cost component of the tariff represents the biomass consumption based on average net heat rate while the plant is operating at 100% load. The main assumptions are as follows:

Fuel	Bagasse (100%)	Coal
Calorific value (GCV)	2200 kcal/kg	6300 kcal/kg
Calorific value (LCV)	1740 kcal/kg	6000 kcal/kg
Average net heat rate (at 1% margin)	14040 btu/kWh	-
Net efficiency	24.3 %	-
Bagasse consumption	2.034 kg/kWh	-
Reference coal price - CIF Khi.	-	US $ 110/ton
LCV ratio coal – bagasse	3.448	-
Equivalent bagasse price	US $ 31.9 /ton	-
Exchange rate	US $ 1 = Rs. 86	-
Reference bagasse price	Rs. 2744/ton	-
Fuel Cost	5.58 Rs/kWh	

i) Indexation and Escalation

The fuel cost component will be adjusted in accordance with the price variation of fuel using variation of international coal price indices applicable at the time of invoicing. This component will also be subject to foreign exchange adjustment and

heat rate degradation factor as per provision in the EPA. The biomass transportation cost from the purchase point to the plant will be passing through on actual.

Fuel Price Variation

The variable cost of Energy Charge relating to the fuel cost component shall be adjusted on account of the coal price variations as and when coal import price and other cost are changed. The basis of future price for indexation will be linked to 50% global coal NEWC pricing system on monthly/ quarterly/ half yearly/yearly basis adjusted for the GCV of 6300 kcal/kg, and 50% TFS AP14 pricing system on monthly/ quarterly/ half yearly/ yearly basis adjusted for the GCV of 6300 kcal/kg, sea freight and marine insurance will be adjusted at actual.

ii) Fuel Pricing Calculation

In a previous tariff determination of JDW, the authority has approved a mechanism of pricing bagasse using CIF coal, the petitioner in line submits that the biomass valuation should be calculated on CIF coal being a more suitable pricing mechanism for biomass fuel.

Biomass fuel price will be indexed for any change in CIF coal price during the month proceeding to the invoice month. For reference price of biomass fuel and indexation factor calculation purpose, the LCV Coal and LCV Bagasse will be used.

6.1.2 Variable O&M

This component include the cost of consumables such as lubricant, chemicals, wear & tear parts, water charges, biomass handling at site including stacking and piling, ash removal by trucks, minor maintenances, checks and inspections related to biomass fuel storage and handling. This component also includes the maintenance cost of conveyors, biomass weighing, handling units, fuel and lubricants consumed.

Indexation and Escalation

The local variable O&M component of the energy charge will be quarterly indexed to the Pakistan wholesale price index (WPI) (manufacturing), as notified by the Pakistan Federal Bureau of Statistics.

The Foreign Variable O&M cost component of the energy charge will be quarterly indexed to both:

a) the USD/PKR exchange rate, based on the then prevailing TT & OD selling rate of USD notified by the National Bank of Pakistan;
b) US CPI, as issued by the US Bureau of Labor Statistics.

6.2 Fixed Energy Cost

The total of the fixed energy cost components will be added in the variable cost components for invoicing of all electrical energy dispatch to the grid on energy charge basis payable monthly by the purchaser.

The fixed energy cost component comprises of fixed O&M cost (foreign & local), cost of working capital, insurance cost, return on equity, return on equity during construction, withholding tax on return on equity and debt service. A detailed breakup and explanation of these components are provided below.

The Fixed Energy Charge components of the tariff are calculated at 80% plant availability and are tabulated below:

	Fixed O&M (Foreign)	Fixed O&M (local)	Cost of Working Capital	Insurance Cost	ROE	ROE DC	WHT @ 7.5%	Debt Repayment	Total
1 - 13years (Rs./kWh)	0.24	0.48	0.43	0.400	1.253	0.07	0.099	1.9672	4.939
1 - 13 years (cents kWh)	0.279	0.558	0.50	0.465	1.457	0.081	0.115	2.287	5.743
14 - 30 years (Rs./kWh)	0.24	0.48	0.43	0.400	1.253	0.07	0.099	-	2.972
14 - 30 years (cents kWh)	0.279	0.558	0.50	0.465	1.457	0.081	0.115	-	3.455

6.2.1 Fixed O&M

The fixed O&M cost component represents (a) fixed costs of staff for operation& maintenance of the plant (b) the cost of spares and services for routine maintenance and major overhaul (c) material handling costs (d) administrative cost and office expenditures. The routine maintenance costs will be incurred on all major equipment, major maintenance or overhaul will be carried out after every five years under the supervisory services of OEM.

The material handling includes biomass and ash. Biomass handling includes costs relating to unloading equipment, weighing bridge, feeders, crane & grabber, stockyard maintenance and re-claimers. The biomass handling process will be primarily biomass unloading from trucks to open stockyard, piling, and from open stockyard to covered storage building and feeding to under ground hopper for conveying biomass to boiler silos.

Cost associated with ash handling system includes ash collection system for both dry and wet ash, shifting to ash storage area and then ash dumping/disposal systems.

The administrative cost is the cost for head office personnel and other office costs and all other costs required for the running of the plant. It includes professional fees, consultant's fees, administration and procurement costs, environmental monitoring costs, license and permits fees, bank charges, safety and security costs etc.

Indexation and Escalation

The following indexations will be applicable to the Fixed O&M cost component:

a) The local fixed O&M cost component will be quarterly indexed to the WPI(manufacturing), as notified by the Pakistan Federal Bureau of Statistics;

and

b) The foreign fixed O&M cost component will be quarterly indexed to both:

i) The USD/PKR exchange rate, shall be based on the then prevailing rate of TT & OD selling of USD notified by the National Bank of Pakistan; and

ii) The US CPI, as issued by the US Bureau of Labor Statistics.

6.2.2 Cost of Working Capital

Cost of working capital has been worked out on the payment terms under the Energy Purchase Agreement for Energy Charge invoiced for the net electrical energy generated and dispatched to the grid and the biomass inventory level maintained for continuous supply of energy to the Purchaser.

Biomass is a renewable energy source, its procurement and maintaining enough inventories will be mainly during harvesting/crushing season. It is important to available substantial stock to avoid any interruption during off crushing season. In order to achieve continuous plant operation maximum purchases of biomass will be done during harvesting/crushing season. The Company therefore intends to have inventory for about 90 days; thus requiring substantial working capital and the cost impact. The Company however has decided to assume cost on working capital in the proposed tariff at average biomass inventory of 45 days.

The price of biomass has been calculated at equivalent coal prices in terms of heat energy and will therefore be indexed for coal price variations at the time of COD.

Cost of working capital has been calculated on the following basis;

	US $ Million
- Energy Charge invoice receivables at 45 days (incl. 16% GST)	1.132
- Biomass inventory equivalent to 45 days generation at 100% load	0.744
1) Annual Working Capital Cost at 16% (@ KIBOR + 2%)	0.30
- 6 month debt repayment reserve	0.7741
2) Annual Working Capital Cost at 7.5%	0.0581
	0.3581

Indexation and Escalation

Any change in 3 months KIBOR and variation in fuel price will be adjusted.

6.2.3 **Insurance Cost**

The Petitioner is submitting the insurance cost to compensate all-risk insurance/re-insurance coverage of the project such as business income coverage, appropriation coverage, political violence coverage and currency inconvertibility coverage as required by the foreign lender. These insurance cost will be adjusted upon finalization of the EPC but is likely to remain within the threshold of 2.35% of EPC Cost. Actual insurance cost to be adjusted after finalization of the insurance arrangements.

Indexation and Escalation

The Insurance Cost Component will be quarterly indexed to both:

- The USD/PKR exchange rate, based on the then prevailing TT & OD selling rate of USD notified by the National Bank of Pakistan;
- US CPI, as issued by the US Bureau of Labor Statistics.

6.2.4 Return on Equity during Construction (ROEDC), Return on Equity (ROE) and Withholding Tax Component (WHT)

The ROEDC and ROE components include a return on invested equity resulting in a proposed an internal rate of return (IRR) of 18% of the project.

Macroeconomic conditions combined with issues relating to law & order have put a damper on Pakistan's ability to attract foreign direct investment. SSJD's majority shareholders are US entities who are willing to invest in this project due to higher financial and social returns in this project. As such, this project will serve as direct evidence of the possibilities for investment within Pakistan and will serve to assist in attracting additional foreign investment for other renewable projects.

It is worth mentioning that this biomass fueled power generation RE - IPPs would be the first of its kind connected with the grid system, and will generate power year round on 100% biomass. This will assist in the development of the agricultural industry; specifically a new source of income and additional employment of hundreds of workers due directly to providing a new use for biomass. The logistics in collecting and transporting the biomass to the power plant would provide employment and business opportunities for the local population. Other benefits are the production of sustainable energy assisting the country to overcome the power crises while simultaneously. helping to alleviate poverty through increased employment in a rural area.

Another great benefit this project offers is use decrease countries dependency on expensive fuel. Equivalent thermal power generation would require approximately Rs. 1 billion in imported fuel (oil). Success of this project would attack other investors towards biomass based projects which has the potential of generating approximately 5000 MW

As part of its corporate social responsibility program SSJD, SSJD has committed to distribute10% of profit for social contributions to the local community for a period

of 7 years (2% contribution for remaining term of project) for schools, hospitals and research and development of the agricultural sector. Additional plans include investments in catchment area to campaign against electricity theft and to facilitate the local population in getting electric connections.

The project benefits to the country are highlighted above and the contention is that investors should be encouraged by offering higher ROE then generally allowed to normal IPPs. This will assist to attract more investors toward biomass IPP power plants resulting in a positive impact on Pakistan's economy. Keeping in mind the recent JDW tariff determination and ROE award of 18% IRR and Sindh coal projects being offered IRR of 20%, combined with the fact that this project is based on 100% renewable technology, the petitioner requests a tariff equivalent to 18% IRR.

Indexation and Escalation

The ROE, ROEDC, and Withholding Tax component of the Energy Charge tariff will be quarterly indexed to the USD/PKR exchange rate, based on the then prevailing TT & OD selling rate of USD notified by National Bank of Pakistan.

6.2.2 Loan Repayment

The table in Annexure - 2 provides a summary of debt payment which mainly comprises repayment of the principal portion of the debt and payment of interest thereon.

The following assumptions have been made in calculating this component:

- Amount of debt: US$ 13.874 million 100% foreign debt, based on 70% debt portion of the overall project cost.
- Term of debt: 13+2 years.
- Interest Rates: 7.5% (US Treasury + 3.5% margin), adjustment will be made at actual interest rate at the time of Financial Closing.

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- Repayment: Fifty two (52) installments quarterly.
- The loan drawdown schedule and related Interest During Construction (IDC) is based on initial financing term of lender. This will be adjusted at COD on account of actual variation in interest on the basis of actual drawdown during construction stage until COD, IDC calculation is attached.
- No taxes or duties have been assumed on the repayment of the loans.

Indexation and Escalation

The loan component will be adjusted to:

The USD/PKR exchange rate, based on the then prevailing TT & OD selling rate of USD notified by National Bank of Pakistan; and

6.3 Foreign Currency and Inflation Adjustment

The foreign components of the fixed Energy Charge and the variable cost will each be indexed quarterly by using the FX Adjustment Factor according to the following formulae:

$$\text{FX adjust}_{qy} = \text{FX Rate}_{qy-1} / \text{FX Rate}_{Ref}$$

Where:

FX adjust $_{qy}$	The FX Adjustment factor applicable for the quarter
FX Rate $_{qy-1}$	The quarterly TT & OD selling rate of US$ as notified by the National Bank of Pakistan which prevailed over the quarter prior to the quarter; and
FX Rate $_{Ref}$	Reference Exchange Rate: Rs. 86= US$ 1

The foreign component of the fixed Energy Charge and variable cost will each is indexed every quarterly by using the foreign inflation adjustment factor calculated according to the following formula:

$$\text{US-CPI adjust}_{qy} = \text{US-CPI}_{qy-1} / \text{US-CPI}_{Ref}$$

US-CPI adjust $_{qy}$	The foreign inflation adjustment factor applicable for the quarter
US-CPI $_{qy-1}$	The United States Consumer Price Index notified by bureau of labor statistic for the prevailed quarter; and
US-CPI $_{Ref}$	The Reference US-CPI (218.011 for July. 2010)

The local components of the fixed Energy Charge and variable cost will each is indexed every quarterly by using the local inflation adjustment factor calculated according to the following formula:

$$\text{WPI adjust}_{qy} = \text{WPI}_{qy-1} / \text{WPI}_{Ref}$$

WPI adjust $_{qy}$	The local inflation adjustment factor applicable for the quarter
WPI $_{qy-1}$	The wholesale price index (manufacturing) notified by federal bureau of labor statistic for the relevant quarter; and
WPI $_{Ref}$	The reference WPI (246.48 for July. 2010)

6.4 Pass through Items

In addition to the pass through items applicable to IPPs in the standardized EPA and specified herein the Petition, any duties and levies and or governmental impositions of whatsoever nature not considered in the Tariff calculation will be treated as part of the project cost at the time of COD.

6.5 Adjustment at Commercial Operation Date (COD)

At the Commercial Operation Date, the relevant component of the Energy Charge of the Reference Tariff will be adjusted on account of variation in USD/PKR, and by the then prevailing US treasury and KIBOR (if applicable) rate. Furthermore, any debt relating cost including registration of foreign currency debt will also be adjusted.

Debt service, ROE and ROEDC will be adjusted on account of actual variation in debt and equity drawdown, actual Interest During Construction and financing costs/fees, actual customs duties and taxes. Once adjusted, the debt service, ROE and ROEDC will be updated according to the relevant indexations.

7.0 GENERAL ASSUMPTIONS OF TARIFF

7.1 The following assumptions have been taken into account while submitting the Energy Charge generation tariff as per the RE - IPP policy. Changes in any of these assumptions will result in a change to the Energy Charge of the reference tariff.

7.1.1 Annual sale of electricity to the Purchaser is assumed at 80% plant availability (7008 operating hours) which is quiet normal for biomass power generation plant. Schedule outages of 45 days are considered on three maintenance cycle per annum, except in a major overhauling year where the scheduled outage period will be 60 days. Annual unscheduled outages of minimum 25 days are assumed.

7.1.2 The Energy Purchaser will be responsible for procuring, financing, constructing, operating and maintenance of the interconnection facility together with metering system at plant site.

7.1.3 All fuels costs during Commissioning & Testing after synchronization shall be paid for by the Energy Purchaser for the electrical energy dispatch to the grid.

7.1.4 Fixed Energy cost Rs/kWh is calculated on the Net Electrical Output guaranteed in the EPC Contract.

7.1.5 The Energy Charge tariff shall be applicable for the term of 30 years from the

Commercial Operation Date (COD).

7.1.6 All net electrical output will be exported to the energy purchaser at 132KV voltage level to the Grid.

7.1.7 No custom duties on import of plant and equipment have been assumed. Similarly no custom duties on import of spare parts have been assumed after COD.

7.1.8 Provision for income tax and turnover tax has not been assumed. Any tax on income of the company including sales proceeds from the Purchaser, general sales tax and all corporate taxes will be treated as pass-through items.

7.1.9 Service tax at the rate of 6% on the construction contract has been assumed, any change on the current applicable rate will be adjusted in the EPC cost.

7.1.10 A constant ROE is assumed, which results in an IRR of 18% over 30 years.

7.1.11 Withholding tax on dividends is assumed at 7.5%.

7.1.12 No hedging cost has been assumed for exchange rate fluctuations during construction period.

7.1.13 Any sale tax, excise duty or other charges payable on the generation, exportation or supply of electricity and capacity, and the purchase, importation, consumption or utilization of fuel shall be pass through to the Energy Purchaser.

7.1.14 Payment to the workers welfare fund shall be pass-through under the Energy Purchase Agreement (EPA).

7.1.15 The exchange rate for calculation of the proposed tariff has been assumed to be 86: 1 for PKR/USD.

7.1.16 No free start ups are assumed. The startups charges shall be determined and reflected in the EPA.

7.1.17 The base price of biomass in the variable cost is calculated at CIF coal of US $ 110 equivalent to Rs. 2744/ton (based on 31.9 US$/ton and exchange rate of Rs. 86 to 1 USD). Cost of transportation of biomass to site will be pass through.

7.1.18 Increase in biomass consumption due to heat rate degradation shall be allowed each agreement year over the term of EPA for adjustment in the fuel cost component of tariff.

7.1.19 Partial load heat rate adjustment below 90% load (as per manufacturer curve) shall be allowed for adjustment in the fuel cost component of tariff.

7.1.20 It will be binding on the Energy Purchaser to take all electrical energy when made available for despatch to the grid, otherwise pay Fixed Energy Cost of the Tariff.

Any Pass-through Item and adjustment on tariff component not expressly mentioned above shall be allowed similar to the IPP's on account of local inflation, foreign inflation, foreign exchange rate variation, and KIBOR variation.

8.0 REFERENCE TARIFF SUMMARY

Tariff Components (80% LF)	Year 1 to 13	Year 14 to 30	Indexation
Fixed Energy Charge (Rs./kWh)			
Fixed O&M (Foreign)	0.24	0.24	PKR/USD & US CPI
Fixed O&M (local)	0.48	0.48	WPI
Working Capital	0.43	0.43	KIBOR
Insurance	0.4	0.4	PKR/USD
ROE	1.253	1.253	PKR/USD
ROEDC	0.07	0.07	PKR/USD
Withholding Tax	0.099	0.099	
Debt. Service	1.9672	-	WPI
			US Treasury & PKR/USD
Total	**4.939**	**2.972**	
Variable Cost (Rs./kWh)			
Fuel Cost Component	5.58	5.58	Fuel Price
Variable O&M – Local	0.24	0.24	WPI
Variable O&M -- Foreign	0.12	0.12	PKR/USD & US CPI
Total	**5.94**	**5.94**	
Energy Charge (Rs. /kWh)	**10.879**	**8.912**	

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9.0 DETERMINATION SOUGHT

NEPRA is requested to kindly ensure consistency of the adjustment formula and indexations to be applied to the referenced tariff normally conveyed to the Petitioners in NEPRA's tariff determination order since these formulae and indexation also form part of Schedule to the EPA. Incase NEPRA needs any further information, clarification, explanation during its evaluation process SSJD Bioenergy Ltd. would be pleased to provide as quickly as possible.

In light of the Petitioner's submission, the learned Authority is kindly requested to review and approve the SSJD Bioenergy Tariff together with the relevant indexations to remain effective for 30 years EPA term.

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JUNAID QURASHI
Chief Executive Officer
SSJD Bioenergy Limited

Annexure - 1

SSJD BIOENERGY LIMITED
REFERENCE TARIFF

Assumptions:
Basis: Energy Charge (Rs./ kWh)
Net Electrical Output: 10480 KW
Annual Energy: 73443840 KWH (80% Availability)
Net Heat Rate: 14040 btu / kWh

Year	A- Variable Cost (Rs./kWh)				B- Fixed Energy Charge (Rs./kWh)										Energy Charge (A + B)	
	Fuel	Variable O&M Foreign	Variable O&M Local	Total (A)	Fixed O&M Foreign	Fixed O&M Local	Cost on Working Capital	Insurance	ROE	ROEDC	Withhol-ding Tax @ 7.5%	Loan Repayment	Interest Charges	Total (B)	Rs./kWh	C/kwh
1	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	0.7701	1.1971	4.939	10.879	12.650
2	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	0.8295	1.1377	4.939	10.879	12.650
3	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	0.8934	1.0737	4.939	10.879	12.650
4	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	0.9624	1.0048	4.939	10.879	12.650
5	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	1.0366	0.9306	4.939	10.879	12.650
6	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	1.1165	0.8506	4.939	10.879	12.650
7	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	1.2027	0.7645	4.939	10.879	12.650
8	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	1.2954	0.6717	4.939	10.879	12.650
9	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	1.3954	0.5718	4.939	10.879	12.650
10	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	1.5030	0.4642	4.939	10.879	12.650
11	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	1 6189	0.3483	4.939	10.879	12.650
12	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	1.7438	0.2234	4.939	10.879	12.650
13	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	1.8783	0.0889	4.939	10.879	12.650
1 - 13 Year															**10.879**	**12.650**
14	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
15	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
16	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
17	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
18	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
19	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
20	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
21	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
22	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
23	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
24	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
25	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
26	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
27	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
28	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
29	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
30	5.580	0.240	0.120	5.940	0.240	0.480	0.430	0.400	1.253	0.070	0.099	-	-	2.972	8.912	10.363
14 - 30 Year															**8.912**	**10.363**
Levelized	-	-	-	-	-	-	-	-	-	-	-	-	-	4.4540	10.394	12.0860

Annexure - 2

Repayment Schedule

Principal Amount	1,193,164,000	PKR.
Interest Rate	7.50%	
Payment	Quarterly	4
No. of Installment	52	

Sr. No	Principal - Opening	Installment			Outstanding Balance	Annual Principal Repayment Rs./kWh	Annual Interest Rs./kWh	Annual Debt Servicing Rs./kWh
		Principal	Interest	Total Installment				
1	1,193,164,000	13,747,478	22,371,825	36,119,303	1,179,416,522			
2	1,179,416,522	14,005,243	22,114,060	36,119,303	1,165,411,279			
3	1,165,411,279	14,267,842	21,851,461	36,119,303	1,151,143,437			
4	1,151,143,437	14,535,364	21,583,939	36,119,303	1,136,608,074			
	1,193,164,000	**56,555,926**	**87,921,286**	**144,477,212**	**1,136,608,074**	**0.7701**	**1.1971**	**1.9672**
5	1,136,608,074	14,807,902	21,311,401	36,119,303	1,121,800,172			
6	1,121,800,172	15,085,550	21,033,753	36,119,303	1,106,714,622			
7	1,106,714,622	15,368,404	20,750,899	36,119,303	1,091,346,218			
8	1,091,346,218	15,656,561	20,462,742	36,119,303	1,075,689,657			
	1,136,608,074	**60,918,417**	**83,558,795**	**144,477,212**	**1,075,689,657**	**0.8295**	**1.1377**	**1.9672**
9	1,075,689,657	15,950,122	20,169,181	36,119,303	1,059,739,535			
10	1,059,739,535	16,249,187	19,870,116	36,119,303	1,043,490,348			
11	1,043,490,348	16,553,859	19,565,444	36,119,303	1,026,936,489			
12	1,026,936,489	16,864,244	19,255,059	36,119,303	1,010,072,246			
	1,075,689,657	**65,617,411**	**78,859,801**	**144,477,212**	**1,010,072,246**	**0.8934**	**1.0737**	**1.9672**
13	1,010,072,246	17,180,448	18,938,855	36,119,303	992,891,797			
14	992,891,797	17,502,582	18,616,721	36,119,303	975,389,215			
15	975,389,215	17,830,755	18,288,548	36,119,303	957,558,460			
16	957,558,460	18,165,082	17,954,221	36,119,303	939,393,378			
	1,010,072,246	**70,678,867**	**73,798,345**	**144,477,212**	**939,393,378**	**0.9624**	**1.0048**	**1.9672**
17	939,393,378	18,505,677	17,613,626	36,119,303	920,887,701			
18	920,887,701	18,852,659	17,266,644	36,119,303	902,035,043			
19	902,035,043	19,206,146	16,913,157	36,119,303	882,828,897			
20	882,828,897	19,566,261	16,553,042	36,119,303	863,262,635			
	939,393,378	**76,130,743**	**68,346,469**	**144,477,212**	**863,262,635**	**1.0366**	**0.9306**	**1.9672**
21	863,262,635	19,933,129	16,186,174	36,119,303	843,329,507			
22	843,329,507	20,306,875	15,812,428	36,119,303	823,022,632			
23	823,022,632	20,687,629	15,431,674	36,119,303	802,335,004			
24	802,335,004	21,075,522	15,043,781	36,119,303	781,259,482			
	863,262,635	**82,003,154**	**62,474,058**	**144,477,212**	**781,259,482**	**1.1165**	**0.8506**	**1.9672**
25	781,259,482	21,470,688	14,648,615	36,119,303	759,788,794			
26	759,788,794	21,873,263	14,246,040	36,119,303	737,915,531			
27	737,915,531	22,283,387	13,835,916	36,119,303	715,632,144			
28	715,632,144	22,701,200	13,418,103	36,119,303	692,930,944			
	781,259,482	**88,328,538**	**56,148,674**	**144,477,212**	**692,930,944**	**1.2027**	**0.7645**	**1.9672**
29	692,930,944	23,126,848	12,992,455	36,119,303	669,804,096			
30	669,804,096	23,560,476	12,558,827	36,119,303	646,243,620			
31	646,243,620	24,002,235	12,117,068	36,119,303	622,241,385			
32	622,241,385	24,452,277	11,667,026	36,119,303	597,789,108			
	692,930,944	**95,141,836**	**49,335,376**	**144,477,212**	**597,789,108**	**1.2954**	**0.6717**	**1.9672**
33	597,789,108	24,910,757	11,208,546	36,119,303	572,878,351			
34	572,878,351	25,377,834	10,741,469	36,119,303	547,500,517			
35	547,500,517	25,853,668	10,265,635	36,119,303	521,646,848			
36	521,646,848	26,338,425	9,780,878	36,119,303	495,308,424			
	597,789,108	**102,480,684**	**41,996,528**	**144,477,212**	**495,308,424**	**1.3954**	**0.5718**	**1.9672**
37	495,308,424	26,832,270	9,287,033	36,119,303	468,476,154			
38	468,476,154	27,335,375	8,783,928	36,119,303	441,140,778			
39	441,140,778	27,847,913	8,271,390	36,119,303	413,292,865			
40	413,292,865	28,370,062	7,749,241	36,119,303	384,922,803			
	495,308,424	**110,385,620**	**34,091,592**	**144,477,212**	**384,922,803**	**1.5030**	**0.4642**	**1.9672**
41	384,922,803	28,902,000	7,217,303	36,119,303	356,020,803			
42	356,020,803	29,443,913	6,675,390	36,119,303	326,576,890			
43	326,576,890	29,995,986	6,123,317	36,119,303	296,580,904			
44	296,580,904	30,558,411	5,560,892	36,119,303	266,022,493			
	384,922,803	**118,900,311**	**25,576,901**	**144,477,212**	**266,022,493**	**1.6189**	**0.3483**	**1.9672**
45	266,022,493	31,131,381	4,987,922	36,119,303	234,891,111			
46	234,891,111	31,715,095	4,404,208	36,119,303	203,176,017			
47	203,176,017	32,309,753	3,809,550	36,119,303	170,866,264			
48	170,866,264	32,915,561	3,203,742	36,119,303	137,950,703			
	266,022,493	**128,071,789**	**16,405,423**	**144,477,212**	**137,950,703**	**1.7438**	**0.2234**	**1.9672**
49	137,950,703	33,532,727	2,586,576	36,119,303	104,417,976			
50	104,417,976	34,161,466	1,957,837	36,119,303	70,256,510			
51	70,256,510	34,801,993	1,317,310	36,119,303	35,454,517			
52	35,454,517	35,454,531	664,772	36,119,303	(14)			
	137,950,703	**137,950,718**	**6,526,494**	**144,477,212**	**(14)**	**1.8783**	**0.0889**	**1.9672**

Loan Summary	US$	PKR	
Exchange Rate	86		
Project Cost	18,750,000	1,612,500,000	
Loan Amount	13,125,000	1,128,750,000	
Loan %	70%	70%	
Loan Tenor	15		
Grace Period	2		
Payment Frequency	Quarterly		
Disbursement Amount			
1st Tranch - 1Q2012	3,937,500	338,625,000	30.0%
2nd Tranch - 2Q2012	1,968,750	169,312,500	15.0%
3rd Tranch - 3Q2012	3,281,250	282,187,500	25.0%
4th Tranch - 4Q2012	1,968,750	169,312,500	15.0%
5th Tranch - 1Q2013	1,312,500	112,875,000	10.00%
6th Tranch - 2Q2013	656,250	56,437,500	5.00%
Markup Rate	7.50%	7.50%	
Interest During Construction	1,045,898	89,947,266	

SSJD BIOENERGY

BOARD RESOLUTIONS:

The following resolutions were discussed in detail by the Board and approved unanimously:

"**RESOLVED THAT** SSJD BIOENERGY LIMITED (a public limited company organized and existing under the laws of Pakistan with its registered office located at Plot # 10-11, Hassan Ali Street, Off. I.I. Chundrigar Road, Karachi, Pakistan) (the **Company**) be and is hereby authorized to file a tariff petition (including any review petitions and any motion for leave for review) for submission to National Electric Power Regulatory Authority for determination of the reference generation tariff in respect of its 12 MW biomass fired electric power generation facility to be located at Mirwah Gorchani Town, District Mirpurkhas, Province of Sindh, Pakistan (the **Project**) and in relation thereto, enter into and execute all required documents, make all filings and pay all applicable fees, in each case, of any nature whatsoever, as required".

"**FURTHER RESOLVED THAT** in respect of filing a tariff petition (including any review petitions and any motion for leave for review) for submission to National Electric Power Regulatory Authority, **MR. JUNAID QURASHI AS CHIEF EXECUTIVE OFFICER** be and is hereby empowered and authorized for and on behalf of the Company to:

(i) review, execute, submit, and deliver the tariff petition (including any review petitions and any motion for leave for review) and any related documentation required by National Electric Power Regulatory Authority for the determination of the reference generation tariff, including any contracts, documents, powers of attorney, affidavits, statements, letters, forms, applications, deeds, guarantees, undertakings, approvals, memoranda, amendments, letters, communications, notices, certificates, requests, statements and any other instruments of any nature whatsoever;

(ii) represent the Company in all negotiations, representations, presentations, hearings, conferences and/or meetings of any nature whatsoever with any entity (including, but in no manner limited to National Electric Power Regulatory Authority, any private parties, companies, partnerships, individuals, governmental and/or semi governmental authorities and agencies, ministries, boards, departments, regulatory authorities and/or any other entity of any nature whatsoever);

(iii) sign and execute the necessary documentation, pay the necessary fees, appear before the National Electric Power Regulatory Authority as needed, and do all acts necessary for completion and processing of the tariff petition (including any review petitions and any motion for leave for review) and procuring National Electric Power Regulatory Authority's tariff determination;

Plot # 10-11, Hassan Ali Street, Off. I.I. Chundrigar Road, Karachi, Pakistan
Ph. +92 21 32631017 Fax: +92 21 32316624 Email: www.ssjdgroup.com

(iv) appoint or nominate any one or more officers of the Company or any other person or persons, singly or jointly, in his discretion to make communicate with, make presentations to and attend the National Electric Power Regulatory Authority hearings;

(v) do all such acts, matters and things as may be necessary for carrying out the purposes aforesaid and giving full effect to the above resolutions/resolution".

"AND FURTHER RESOLVED THAT MR. JUNAID QURASHI AS CHIEF EXECUTIVE OFFICER be and is hereby authorized to delegate all or any of the above powers in respect of the foregoing to any other officials of the Company as deemed appropriate."

Plot # 10-11 Hassan Ali Street Off I.I. Chundrigar Road Karachi-74000
Ph: +92 21 32631017 Fax: +92 21 32[illegible] Email: www.ssjdgroup.com

PAKISTAN

100 RS.

ONE HUNDRED RUPEES

ABDUL LATIF ARAIN STAMP VENDOR

16 NOV 2011

Muhammad Sharif Arain
Advocate

BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY ("NEPRA")

APPLICATION FOR TRAFFIC DETERMINATION

AFFIDAVIT

of Mr. Junaid Qureshi S/o Shafi Mohammad Qureshi, Pakistan national, having CNIC # 423015-057991-7, Chief Executive Officer of SSJD Bioenergy Limited, having its registered office at Plot # 10-11, Hassan Ali Street, Off. I.I. Chundrigar Road, Karachi, 74000, Karachi.

I, the above named Deponent, do hereby solemnly affirm and declare as under:

1. **I am the Chief Executive Officer and authorized representative of SSJD Bioenergy Limited.**
2. **That I have filed the accompanying Tariff Petition together with supporting documents before the learned Authority, and the contents of the same may kindly be read as an integral part of this affidavit.**
3. **That the contents of the accompanying Tariff Petition are true and correct to the knowledge and belief of and according to the information received by the Deponent, and that nothing has been concealed.**
4. **That all further documentation and information to be provided by me in connection with the accompanying Tariff Petition shall be true to the best of my knowledge and belief and according to the information received by the Department.**

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Deponent ____________

SHELA MEHMOOD
Oath Commissioner
Karachi Pakistan

VERIFICATION

Verified on oath on this 17th day of November, 2011 that the contents of this affidavit are true and correct to the best of my knowledge and belief.

National Electric Power Regulatory Authority

Islamic Republic of Pakistan

2nd Floor, OPF Building, G-5/2, Islamabad
Ph: 9206500, 9207200, Fax: 9210215
E-mail: registrar@nepra.org.pk

Registrar

No. NEPRA/R/LAG-182/4276-78

June 14, 2011

Mr. Junaid Qurashi
Chief Executive Officer
SSJD Bioenergy Limited
Plot # 10-11, Hassan Ali Street,
Off I.I. Chundrigar Road,
Karachi
Ph: 021-32631017

Subject: **Generation Licence No. IGSPL/31/2011**
Licence Application No. LAG-182
SSJD Bioenergy Limited

Reference: Your letter no. SSJD/NEPRA/03/11, dated March 08, 2011

Enclosed please find herewith Generation Licence No. IGSPL/31/2011 granted by National Electric Power Regulatory Authority (NEPRA) to SSJD Bioenergy Limited (SSJDBEL), for its 12.00 MW Biomass based Thermal Power Plant located at Mirwah Gorchani, District Mirpurkhas, in the province of Sindh pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997). Further, the determination of the Authority in the subject matter is also attached.

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

Enclosure: **Generation Licence (IGSPL/31/2011)**

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY * NEPRA * REGISTRAR

(Syed Safeer Hussain)

Copy to:

1. Chief Executive Officer, Hyderabad Electric Supply Company (HESCO), WAPDA Water Wing Complex, Hussainabad, Hyderabad
2. Director General, Pakistan Environmental Protection Agency, House No. 311, Main Margalla Road, F-11/3, Islamabad.

050

National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan

GENERATION LICENCE
No. IGSPL/31/2011

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

SSJD BIOENERGY LIMITED

Incorporated under the Companies Ordinance, 1984
Under Certificate of Incorporation

No. 0073147, dated July 19, 2010

for its Biomass based Thermal Power Plant located at Mirwah Gorchani, District Mirpurkhas, in the Province of Sindh

(Installed Capacity: 12.00MW Gross ISO)

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

Given under my hand this 14th day of June, Two Thousand & Eleven, and expires on 29th day of April, Two Thousand & Forty Three.

Registrar

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY ★ NEPRA ★ REGISTRAR

051

National Electric Power Regulatory Authority
(NEPRA)
Islamic Republic of Pakistan

2nd Floor, PIA Building, Blue Area, Islamabad Tel. No.+92 051 9206798 Fax No. +92 051 9217651
Website: www.nepra.org.pk E-mail: office@nepra.org.pk

FIN/NEPRA-2011/ Dated 28-JUL-11

SSJD Bioenergy Limited
Plot # 10-11,Hassan Ali StreetI.I. Chundrighar Road,
Karachi

Subject: Acknowledgement

Received with thanks a sum of Rs. 109,672 (Rupees One hundred nine thousand six hundred seventy-two only.) vide Ch # 4887461 is hereby acknowledged as per following.

Invoice			On Account Of
Number	Date	Amount	
1002529	05-JUL-11	109,672	Annual Renewal License fee of generation companies

This is a system generated document and does not require a signature.

Head Office:
2nd Floor, OPF Building G/5-2, Islamabad, Tel. No. +92 051 9207200, Fax No. +92 051 9210215
Website: www.nepra.org.pk E-mail: office@nepra.org.pk

Government of Pakistan
Alternative Energy Development Board (AEDB)
3, Street No. 8, F-8/3, Islamabad.
Tel: 92 51 9262947-50, Fax: 92 51 9262977

B/3/1/FFC/07

27th December 2010

Mr. Junaid Qureshi
Chief Executive Officer
SSJD Bioenergy Limited
Plot # 10-11, Hassan Ali Street,
Off I.I Chundrigar Road
Karachi.

Subject: **FEASIBILITY STUDY FOR 12 MW BIOMASS POWER PROJECT**

This refers to your letter No. SS-03-010 dated 25th October 2010 on the subject cited above.

2. The subject feasibility study submitted by M/s SSJD Bionenergy Ltd. is under review of AEDB for vetting and approval. During the review of the study, the following observations have been made;

i. The environment study has been provided by the project company, however, the same needs to be submitted to the relevant Environmental Protection Agency (EPA) by the project company for approval.

ii. The feasibility study provides the information regarding general features of technology proposed for the project. However, the study does not identify specific make of the equipment selected for the project and its technical specifications. These may kindly be provided.

iii. The study mentions possible schemes for grid interconnection. However, detailed grid interconnection study is not provided. A detailed grid interconnection study may be provided, if required by the concerned DISCO. In this regard, the project company may liaison with the concerned DISCO on this issue.

3. The approval of the feasibility study shall be accorded once requested information is provided to AEDB and the requisite approvals of environmental study and the grid interconnection study, if required, are acquired from the concerned organizations. The IPP may however proceed ahead with the filing of applications for generation license and tariff to NEPRA.

4. Regards.

(Dr. Basharat Hasan Bashir)
Director General (H&W)

Government of Pakistan
Ministry of Water and Power
Alternative Energy Development Board (AEDB)
H No.03, Street # 08, F-8/3, Islamabad
Tel: 051-9262947-49 Fax: 051-9262977

B/3/21-Gen/2010

July29, 2011

Mr. Junaid Qureshi
Chief Executive Officer
SSJD Bioenergy Limited
Plot # 10-11, Hassan Ali Street,
Off I.I Chundrigar Road
Karachi.

Subject: **FEASIBILITY STUDY FOR ESTABLISHMENT OF 12 MW BIOMASS POWER PLANT BY M/S SSJD**

Reference is made to your letter No. SS-12-011 dated July 26, 2011 on the the subject cited above.

2. The Feasibility Study, submitted by M/s SSJD for the establishment of 12 MW biomass power project at Mirwah GorchaniTown, District Mirpurkhas, Sindh, under the LoI issued by AEDB, has been reviewed by the Panel of Experts (POE).

3. The PoE hereby grants approval to the subject Feasibility Study with a proviso that M/s SSJD shall fulfil all the project related requirements of the power purchaser and other relevant agency(s) Moreover, as provided for in LoI, M/s SSJD shall also be required to provide copies of all approvals / consents to AEDB that are acquired from any concerned public agencies / departments in relation to the project.

4. The Panel of Experts (PoE) certify only the completion of the Feasibility Study, however, due to nature of the data and resultant conclusions, PoE jointly and/or individually will not be responsible for reliability of data, contents and conclusions given in the Feasibility Study.

5. Best Regards

(Sulman Ishaque Malik)
Deputy Director (H&W)

Reference No: EPA/2010/11/25/IEE/104/2011

ENVIRONMENTAL PROTECTION AGENCY

GOVERNMENT OF SINDH

Plot # ST-2/1, Sector 23, KIA, Karachi-74900
Ph: 5065950, 5065598, 5065637
5065532, 5065946, 5065621
epasindh@cyber.net.pk
Facsimile: 5065940

Dated: 6th January, 2011

SUBJECT: DECISION ON INITIAL ENVIRONMENTAL EXAMINATION (IEE).

1.	**Name and Address of Proponent:**	Mr. Akhlaq Ullah Vice President of Technologies, SSJD Bioenergy Limited Karachi.
2.	**Description of Project:**	12MW Biomass Power Plant.
3.	**Location of Project:**	Mirwah Gorachi, District Mirpur Khas, Sindh.
4.	**Date of Filing of IEE:**	25th November, 2010

5. After careful review of the Initial Environmental Examination (IEE) report, the Environmental Protection Agency (EPA), Government of Sindh, has decided to accord its approval subject to the following conditions:-

(i) The SSJD Bioenergy Limited hereinafter referred as proponent shall comply National Environmental Quality Standards (NEQS) notified for air emissions and effluent from the power plant.

(ii) Adequate capacity based on proper calculation best available technology will be installed to reduce the potential emissions of particulate matter.

(iii) An effective and environmental friendly ash disposal system will be developed which would cater to collection, transfer and final disposal of ash to a designated landfill site developed so that it should create contamination of soil or ground water.

(iv) An effective storage and handling facility will be developed to store the biomass fuel in order to ensure that dispersion of biomass in the ambient air is completely controlled as well odor should not create obnoxious smell in the vicinity of storage facility.

(v) Mitigation measures recommended in the IEE report must be strictly adhered to in minimizing any negative environmental effect on the natural ecology.

(vi) World Bank standards for noise levels shall be implemented in order to minimize noise impact of the proposed project. For dust emission/Particulate matter purpose an appropriate buffer shall be kept across the boundary of the project through extensive plantation.

(vii) A comprehensive waste management plan shall be developed for effective disposal of all types of waste generated from the plant. Unusable waste shall be recycled; all remaining waste shall be disposed off at designated landfill. Proper solid waste containers of suitable size shall be provided for daily collection and disposal. Sewage waste will be treated in sewage treatment plant before disposal.

(viii) A complete code of Health, Safety and Environment (HSE) shall be developed, which should include efficient parameters at specific work place. For this purpose HSE setup should be established and supervised by a designated HSE officer at the senior level with sufficient administrative and technical authority to perform the designated functions. Proponent will make sure that the operating instructions and emergency actions are made available to every worker/labor/commuter at the site.

(ix) The Proponent will carry out self-monitoring and reporting and will submit report to EPA, Sindh for the recommended parameters with their appropriate frequencies as listed in Self-Monitoring & Reporting Rules.

(x) Monitoring of ambient air quality at the plant boundary and 500 meter radius shall be conducted on monthly basis for CO and NOx parameters during operation of the plant, in order to observe incremental impact of the plant. The result shall be annexed with the quarterly monitoring reports.

6. This approval and any considerations thereof shall be treated as null and void if the conditions, mentioned in para-5 above, are not complied with.

7. The proponent shall be liable for compliance of section 13, 14, 17 and 18 of EIA/IEE Regulations, 2000, which direct for condition for approval, confirmation of compliance, entry, inspection and monitoring.

8. This approval does not absolve the proponent of the duty to obtain any other approval or consent that may be required under any law in force.

9. The approval is accorded only for the project activity described in the IEE Report. Proponent shall submit separate EIA or IEE as required under regulation for any enhancement or change in the design of project.

10. Implementation Report of all the mitigation measures and EMP laid down in the IEE Report shall be submitted to this office on monthly basis. No violation of any regulations, rules, instruction and provision of PEP Act, 1997, shall be made and in case of any such violation of the rules/laws in the approval shall stand cancelled without any further notice.

11. All the environmental conditions of this approval shall be incorporated in the terms and conditions of tender document of the project for commitment and compliance.

Naeem Ahmed Mughal
Director General

Daily Express
December 24, 2011 (Saturday)

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

نوٹس برائے اندراج/عوامی شنوائی

ایس ایس پے ڈی ہائیوانرجی لمیٹڈ کی جانب سے اپنے جنریشن ٹیرف کے تعین کی درخواست دائر کی گئی

تمام فریقین، دلچسپی رکھنے والے/متاثرہ افراد اور عوام الناس کو مطلع کیا جاتا ہے کہ اتھارٹی میسرز ایس ایس پے ڈی ہائیوانرجی لمیٹڈ کی جانب سے دائر کی گئی درخواست کو زیر بحث لانے کے لئے قبول کر لیا ہے۔ درخواست گزار نے پیسکو کو (HESCO) بجلی کی مجوزہ فروخت کی خاطر جنریشن ٹیرف (نرخ نامے) کے تعین کی درخواست دی ہے

درخواست کے نمایاں نکات

درخواست گزار کی جانب سے درخواست میں دی جانے والی تفصیل کے نمایاں نکات کا خلاصہ کچھ یوں ہے:

1. ایس ایس پے ڈی ہائیوانرجی لمیٹڈ کو 10.394/kWh روپے (12.0860/kWh امریکی ڈالر) کا متوازن جنریشن ٹیرف مطلوب ہے جس کی پیداوار مہیا کرنے کی تاریخ سے انضباطی مدت آیندہ 30 سال ہے۔
2. پراجیکٹ العباس شوگر ملز کے قریب، میرداد گورچانی ضلع میرپور خاص کے مقام پر واقع ہے۔
3. پلانٹ کی مجوزہ پیداواری گنجائش 12.00 میگا واٹ (Gross) ہے (معاون (auxiliary) لوڈ اور لوسز 1.52 MW ہیں)۔
4. پراجیکٹ کی توانائی کی سالانہ پیداوار 73.444 ہے۔
5. پراجیکٹ کے لئے منتخب کی جانے والی ٹیکنالوجی-Conventional steam power cycle-HTC/WUXI-China, (Traveling grate boiler biomass fired Stream turbine, condensing cum extractions type and generator set).
6. 100% لوڈ پر پراجیکٹ کی کل مجوزہ کارکردگی (efficiency) 24.3% ہے۔
7. پلانٹ کا ایوی ایلیبلٹی فیکٹر 80% ہے
8. پراجیکٹ کی لاگت کا خلاصہ کچھ یوں ہے:

No.	Cost Head	US$ in million
1.	EPC Cost	15.120
2.	Non-EPC Cost	0.480
3.	Staff Colony	0.100
4.	Land acquisition & land Development costs	0.540
5.	Project Development Cost	0.935
6.	Startup expenses & utilities	0.160
7.	O&M Mobilization cost	0.180
8.	Insurance during construction	0.370
9.	Financing fees & charges	0.790
10.	Emergency spare parts	0.100
11.	Project cost without IDC	18.775
12	Interest during construction	1.046
	Total Project Cost	**19.821**

ریفرنس ایکسچینج ریٹ 1US$ = 86 PKR

9. پراجیکٹ کی ای پی سی ٹھیکیدار Orient Energy Systems-Pakistan ہے۔
10. قرض پر ایکویٹی کا مجوزہ تناسب 30%: 70% ہے۔
11. COD کا مجوزہ وقت تمام مالی اداٸیگی کے 20 ماہ بعد کا رکھا گیا ہے۔
12. 100% بیرونی قرض پر لگی گئی شرح سود 7.5% (US Treasury جمع 3.5% margin) ہے۔
13. قرض کی مدت 2 سال کی اضافی مدت کے ساتھ 15 سال ہے۔
14. ایکویٹی پر ریٹرن کا ریٹ 18% (آئی آر آر ریبیسڈ) تجویز کیا گیا ہے جو 30 سال تک یکساں رہے گا

میسرز اقوانین (میسرز سٹینڈرڈ اینڈ پوورز) 1998، کی شق نمبر 6 اور 7 کے مطابق، دلچسپی رکھنے والے افراد جو اس کارروائی میں حصہ لینا چاہتے ہیں، مداخلت کی درخواست اس نوٹس کے اجراء کے بعد سات دن کے اندر دائر کر سکتے ہیں۔ اس درخواست میں درخواست گزار اپنے نام اور پتہ کے ساتھ ساتھ کارروائی پر عمل درآمد کے نتیجے میں اگر خاص طور پر یا معمول کے مطابق کسی طریقے سے متاثر ہو سکتا ہے تو اپنے اعتراضات بھی درج کرے۔ مداخلت کی اس درخواست میں، درخواست گزار اس کیس سے متعلقہ تنازعات کی تفصیل مطلوبہ رعایت اور ثبوت، اگر کوئی ہے، فراہم کرے۔ مداخلت کی درخواست میں، مداخلت کرنے والے کو خصوصی طور پر درخواست میں درج شدہ حقائق کو قبول، منسوخ یا اس کی وضاحت کرنا ہوگی اور اس کارروائی سے متعلقہ اضافی حقائق سے بھی آگاہ کرنا ہوگا جو اس کارروائی کے مصدقہ نتائج کے حصول میں مددگار ثابت ہوں۔ مداخلت کی درخواست دستخط شدہ/تصدیق شدہ ہو اور دائر کی گئی درخواست کے مطابق حلف نامے کی صورت میں ہو۔ مداخلت کرنے والے کو، درخواست گزار یا اس کے نمائندے کو، اپنی درخواست کی تصدیق شدہ نقل بطور حقیقی کاپی، جمع کروانی ہوگی اور درخواست گزار اس کا روجواب شنوائی سے پہلے جمع کروا سکتا ہے۔

16. کوئی بھی شخص، اشتہار کے اجراء، کے سات دن کے اندر اس معاملے سے متعلق اپنی رائے تحریری طور پر جمع کروا سکتا ہے، اور اتھارٹی کی رائے کے مطابق یہ درخواست قابل قبول ہوئی تو متعلقہ شخص کو کارروائی میں حصہ لینے کی اجازت دے دی جائے گی اور حتمی نتیجہ میں اس کی رائے کو مدِ نظر رکھا جائے گا۔
17. تمام فریقین اور دلچسپی رکھنے والے/متاثرہ افراد کو یہ بھی اطلاع دی جاتی ہے کہ متعلقہ اور مذکورہ فیصلہ پر پہنچنے کے لئے، اتھارٹی نے یہ فیصلہ بھی کیا ہے کہ مذکورہ معاملے سے متعلق شنوائی مندرجہ ذیل تاریخ، وقت اور مقام پر ہوگی۔

تاریخ: 11 جنوری 2012 (بروز بدھ)
وقت: صبح 10:30
مقام: میسرز امین آفس، سیکنڈ فلور، او پی ایف بلڈنگ، G-5/2، اسلام آباد

رابطے کے لئے

رجسٹرار میسرز (NEPRA)
سیکنڈ فلور، او۔ پی۔ ایف بلڈنگ، G-5/2، شاہراہ جمہوریت، اسلام آباد
فون: 6500 920-051، فیکس: 0215 921-051 ای۔میل: office@nepra.org.pk
مزید معلومات اور درخواست کو ڈاؤن لوڈ کرنے کے لئے ہماری ویب سائٹ www.nepra.org.pk وزٹ کریں۔

PID(I)2795/11

E

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

INTERVENTION REQUEST

PETITION FILED BY SSJD BIOENERGY LIMITED FOR DETERMINATION OF GENERATION TARIFF (CASE NO. NEPRA/TRF-202/SSJD-2011)

Name/Address	
Manner in which the intervener is likely to be affected by any determination in the proceeding.	(*)
Contention / Grounds of making the formal request	(*)
Relief Sought (if any).	(*)
Brief of evidence (if any)	(*)
Comments.	(*)

(*) Add additional Supplements if required

Date: _____

_____
Signature

To be accompanied with:

1. An affidavit on stamped paper (sample attached), sworn before an authorized officer.
2. Intervention Request Fee

CONTENTS OF AFFIDAVIT

The affidavit to be submitted with any petition or communication where in any statement of fact or opinion is made by the petitioner or the communicator, shall be drawn up in the first person stating the full name, age, occupation and address of the deponent and the capacity in which he is signing and indicating that the statement made therein is true to the best of the knowledge of the deponent, information received by the deponent and belief of the deponent, and shall be signed and sworn before a person lawfully authorized to take and receive affidavit, provided that, a communication filed during the course of a hearing may be affirmed in person before the Authority by the person filing the same.

Where any statement in an affidavit given as per paragraph above is stated to be true according to the information received by the deponent, the affidavit shall also disclose the source of such information.