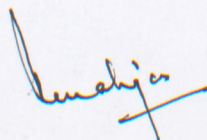


**DIRECTORATE OF ENERGY
GOVERNMENT OF HIMACHAL PRADESH**

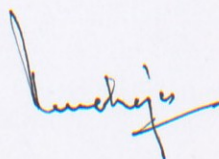
OFFICE ORDER

Directorate of Energy, Government of Himachal Pradesh, is pleased to accord Techno Economic Clearance(TEC) to Banu SHP(5.00MW) on Banu khad a tributary of Binwa khad in Beas basin, District Kangra, Himachal Pradesh, allotted to "M/S Jaya Enterprises, Skipton Villa, Near Ritz, Shimla-171001(HP)" at an estimated cost of Rs. 4109.32 lac (Rupees four thousand one hundred nine lac thirty two thousand) only including Interest During Construction(IDC), Escalation, Financial Charges (FC) and LADC @ 1.0 % of total project cost with the following stipulations:

- i.i) The completed cost of the project shall not exceed the above cost except on account of the following:
 - a) Interest During Construction (IDC) and Financial Charges(FC) shall be as per actual but not exceeding the amount as indicated in Annex-I, unless revised by DOE, GoHP while according concurrence under section 8 of Indian Electricity Act, 2003 after review of financial package.
 - b) Change in rates of Indian taxes/duties such as excise duty, sales tax/VAT, custom duty and levy of any other taxes/duties subsequent to issue of Techno-Economic Clearance.
 - c) Change in Indian law resulting in change in the cost.
 - ii) The abstract of the estimated cost approved by DOE, GoHP is furnished at Annex-I and the Salient Features of the scheme are at Annex-III.
- 2) The Techno Economic Clearance(TEC) is subject to the fulfillment of the following conditions:
- i) Completion cost/Techno-Economic Clearance(TEC) shall not be re-opened due to the following:
 - a) Non acquisition of land.
 - b) Non- finalization of Power Purchase Agreement (PPA)
 - c) Delay in financial closure.
 - ii) The final financial arrangement shall not be inferior to the financing arrangement projected in the Detailed Project Report(DPR) for TEC.
 - iii) The cost of the project cleared by the DOE, GoHP is indicative and shall have no binding on the regulator while fixing the tariff. The tariff of the project shall be regulated by the appropriate Electricity Regulatory Commission
 - iv) The public issue expenses, if any, shall be reconsidered at the time of approval of completion cost based on documentary proof and in accordance with Security Exchange Board of India (SEBI) guidelines regarding regulation of public issue expenses.
 - v) Fulfillment of conditions stipulated in Central Electricity Authority(CEA)/Central Water Commission(CWC) guidelines in respect of civil works at the stage of detailed designs/execution.
 - vi) Any increase in the cost estimate due to design modifications and geological surprises would be absorbed by the Independent Power Producer(IPP) i.e. "M/S Jaya Enterprises , Shimla-171001(HP)"
 - vii) No additional costs shall be allowed due to Resettlement & Rehabilitation (R & R) Plan.
 - viii) Normal operation life of the hydro power plant shall be as per provisions of CWC/CEA guidelines or CERC/HPERC regulations.
 - ix) The statutory and administrative clearances as per Annex-II shall be obtained before execution/ implementation of the project.
 - x) The interconnection point with State grid and the interconnection facilities at the interconnection point shall be provided, operated and maintained at the cost of the IPP. Entire cost including land and construction of separate bay(s) including terminal/ protection equipment shall be borne by the IPP.

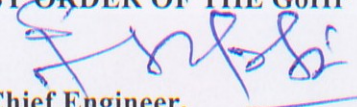


- xi) The cost of providing and/or strengthening/additions etc. of the system at and beyond the Interconnecting Sub Station which may also include the cost of replacement of switchgear/protection and provision of shunt capacitors, strengthening of bus bars, apart from other works required at injection voltage level and other one or more successively higher voltages, civil works relocation of existing bays etc. shall be recovered by HPSEBL as per the regulations of HPERC read with the clarifications/decision by HPERC and/or any other competent authority as may be finally applicable. The share of IPP on this account shall be payable by the IPP to HPSEBL as per the final decision of the competent authority.
- xii) Whereas the HPSEBL shall endeavor to provide the evacuation system at the earliest, the schedule date for providing evacuation arrangements shall be spelt out in the PPAs on case to case basis inter-alia, keeping in view the time lines indicated in the relevant plan and approved by HPERC.
- xiii) The power house generating equipment as well as other electrical equipment to be provided by the developer shall be compatible for parallel operation with State Grid.
- xiv) O&M charges for maintenance of interconnection facilities at the interconnection sub-station shall be paid by the IPP to HPSEBL throughout the period, the IPP runs the project and the same shall be reviewed at the beginning of every financial year.
- xv) The Project line shall be provided, operated and maintained by the IPP at his cost as per normal conditions after obtaining approval from HP Govt. under Section 68(1) of Electricity Act, 2003.
- xvi) For evacuation of power, the IPP shall interface this project with 33 kV Sub-Station at Binwa Power House subject to the condition that the developer shall have to bear the expenditure of one number terminal bay to accommodate equipment required for evacuation of their power by cutting the hill adjoining to 33 kV yard of Binwa PH.
- xvii) The above mentioned evacuation arrangements shall be subject to the feasibility of interconnection at the interfacing point and further HPERC approval of "Comprehensive area wise plan for augmenting and establishing the transmission/sub-transmission system for the evacuation of power from small HEPs" which has already been submitted to HPERC. The Transmission/Distribution Licensee may however evolve alternative system(s) depending on the site conditions and subsequent developments, with the approval of HPERC.
- xviii) The IPP shall develop operate and maintain the project including the dedicated transmission system subject to compliance of the following:
 - a) Grid code and standards of grid connectivity.
 - b) Technical as well as mechanical standards for construction of Electrical Lines.
 - c) Norms of System Operation of the concerned State Load Dispatch Center(SLDC) or Regional Load Dispatch Center (RLDC).
 - d) Directions of the concerned SLDC or RLDC regarding operation of dedicated transmission line.
 - e) The IPPs shall only be allowed to inject power in HP system with the undertaking that the necessary action to provide tele-metering to SLDC shall be provided by them and specifications required to be got approved from the office of SE(SLDC), HP Load Despatch Society, Totu, Shimla from compatibility point of view with existing SCADA system.
- xix) The conditions on these lines shall also have to be suitably included by the developer in PPA etc, apart from other standard conditions.
- xx) Minimum 15% release of water immediately down stream of diversion structure shall be ensured all the times including lean season as per Power Policy of HP Govt., 2006 and subsequent amendments thereof. The necessary monitoring equipment as prescribed by pollution Control Board for the same shall be installed by the IPP during execution of the project.
- xxi) LADC/LADF amount and activities shall be implemented as per Power Policy of HP Govt., 2006 and subsequent amendments thereof.



- xxii) The additional 1% (one percent) free power from the project shall be provided and earmarked for Local Area Development Fund (LADF) as per HP Govt Notification No.MPP-F(1)-2/2005-V dated 30.11.2009.
- xxiii) The TEC is based on the reports and data furnished by the IPP in the DPR and it is presumed that the information furnished is correct and has been collected reliably after carrying out detailed field investigations and surveys under the supervision of the competent personnel. The scrutiny of DPR does not cover the examination of detailed designs and working drawings of project components in regard to their structural, hydraulic and mechanical performance & safety which shall be ensured by the IPP/ Project Authority.
- xxiv) The observations of DOE, GoHP and replies thereof shall form an integral part of the DPR.
- 3 The project shall be completed within 36 months from the date of start of the construction works.
- 4 The completion cost of the scheme shall be submitted to DOE, GoHP for approval within 3 months from the Commercial Operation Date (COD) of the plant.
- 5 The Project Promoters/Project Authorities shall give free accessibility to the officers and staff of DOE, GoHP to have on the spot assessment of various aspects of the project.
- 6 The firm financial package and tie-up of balance inputs/clearances shall be completed within the period as stipulated in the HP Govt. power Policy, 2006 and subsequent amendments thereof /Implementation Agreement.
- 7 In case the time gap between the Techno-Economic Clearance of the scheme and actual start of work on the project is three years or more, a fresh Techno-Economic Clearance shall be obtained from DOE, GoHP before start of actual work.
- 8 The DOE, GoHP reserve the right to revoke the concurrence if the conditions stipulated above are not complied with to the satisfaction of the HP Govt.

BY ORDER OF THE GoHP

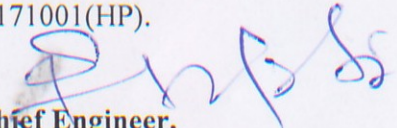

**Chief Engineer,
Directorate of Energy, GoHP,
Phase III, Sector VI,
New Shimla-171009(HP).**

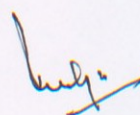


No. DOE/CE(Energy)/TEC-Banu / 2011 - 5625-33 Dated: 5/10/11

Copy for information and necessary action to the:

- 1) Principal Secretary (MPP & Power) to HP Govt., Shimla-171002.
- 2) Principal Secretary(NES) to HP Govt., Shimla-171002.
- 3) Secretary, Ministry of Non-Conventional Energy Sources(MNES), Block No.- 14, CGO Complex, Lodhi Road, New Delhi-110003.
- 4) Director, Environmental & Scientific Technologies, Narayan Villa, Near Wood Villa Palace, Shimla-171002.
- 5) General Manager(C&D), HPPTCL, Borowalia House, Khalini, Shimla-171002.
- 6) Chief Engineer (SP), HPSEB Ltd., Vidyut Bhawan, Shimla-171004.
- 7) Chief Engineer (Comm), HPSEB Ltd., Vidyut Bhawan, Shimla-171004.
- 8) Chief Executive Officer, Himurja, 8A- SDA Complex, Kasumpati, Shimla-171009.
- 9) M/S Jaya Enterprises, Skipton Villa, Near Ritz, Shimla-171001(HP).


**Chief Engineer,
Directorate of Energy, GoHP,
Phase III, Sector VI,
New Shimla-171009(HP).**

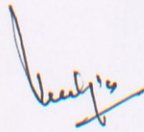


Banu SHP(5.00MW) in Distt Kangra of Himachal Pradesh allotted to "M/S Jaya Enterprises, Skipton Villa, Near Ritz, Shimla-171001(HP)".

ABSTRACT OF COST ESTIMATE

Sr. No. (a)	Description of works	Amount (Rs. in lac)	
1.	Civil works i/c other Misc. Expenses	2442.05	} Price Level January, 2011
2.	Electro Mechanical works	1036.53	
3.	Transmission works	63.00	
	Sub Total (a)	3541.58	
(b)			
1.	Escalation	104.28	
2.	Interest During Construction(IDC)	393.09	
3.	Financial Charges (FC)	29.69	
	Sub Total (b)	527.06	
	Total (a+b)	4068.64	
(c)	LADC @1.0 % of (a+b)	40.68	
	Grand Total (a+b+c)	4109.32	

(Rupees four thousand one hundred nine lac thirty two thousand only)



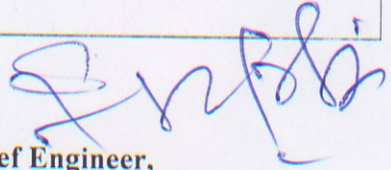
Chief Engineer,
Directorate of Energy, GoHP,
Phase III, Sector VI,
New Shimla-171009(HP).


ANNEXURE-II

Banu SHP(5.00MW) in Distt Kangra of Himachal Pradesh allotted to "M/S Jaya Enterprises, Skipton Villa, Near Ritz, Shimla-171001(HP)".

LIST OF STATUTORY AND ADMINISTRATIVE CLEARANCES REQUIRED

Sr. No.	ITEM	AGENCY	REMARKS
*1.	WATER AVAILABILITY	1. State Govt. 2. CWC	Interaction between State Govt. Deptt. & CWC required . Relevant Irrigation Act of the State & Central Water Commission.
2.	SEB CLEARANCE	1. SEB 2. State Govt.	Section 44, E (S) Act, 1948 repealed by Electricity Act, 2003.
3.	POLLUTION CLEARANCE WATER AND AIR	State/ Central Pollution Control Board	Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981.
4.	FOREST CLEARANCE	1. State Govt. 2. Min. & E&F GOI	Coordination with State Forest Deptt./ Min. of Environ. & Forest (MOE&F) regarding Forest (Conservation) Act, 1980.
5.	ENVIRONMENT	1. State Govt. 2. Min. of E&F GOI	As per item (3) & (4) & Govt. Policy in force.
6.	REGISTRATION	Registrar of Companies	Under Indian Companies Act, 1950.
7.	REHABILITATION & RESETTLEMENT OF DISPLACED FAMILIES BY LAND ACQUISITION	1. State Govt . 2. Min. of E&F GOI	
8.	EQUIPMENT PROCUREMENT	DGTD, CCI&E	Import & Export Acts.


Chief Engineer,
Directorate of Energy, GoHP,
Phase III, Sector VI,
New Shimla-171009(HP).



Banu SHP(5.00MW) in Distt Kangra of Himachal Pradesh allotted to "M/S Jaya Enterprises, Skipton Villa, Near Ritz, Shimla-171001(HP)".

SALIENT FEATURES

1. LOCATION

State	Himachal Pradesh
District/Tehsil	Kangra /Baijnath
River/Khad	Beas/ Binwa/ Banu khad
Vicinity	Manei, Tar, Binwa nagar
Proposal	Weir site on Banu khad at El. \pm 998.00m near village Manei and powerhouse on left bank at El. \pm 1600.00 m upstream of Binwa nagar.
Access Road	Road up to intake of Binwa HEP from Paprola 16.00 km.
Rail	Nearest BG station at Pathankot(Pb)
Geographical co-ordinates	
Longitude	Easting 76° 39' 08"
Latitude	Northing 32°08' 35"
SOI topo sheet	52 - D/12

2. HYDROLOGY

Name of khad/river	Banu khad
Tributary of/Basin	Binwa/Beas
Catchment area at Diversion site	14.00 sq km
CA under permanent snow	3.00 sq km
Design discharge	1.53 cumecs
Design Flood	280 cumecs

3. PROJECT COMPONENTS

3.1 DIVERSION WEIR

Type	Drop type trench weir
River bed level	El \pm 1998.00 m
Size	2.00 m wide, 15.00 m long
Design Discharge	2.44 cumecs (i/c flushing)
Shingle flushing pipe	300 mm dia, 20.00 m long
Flushing discharge	0.40 cumecs

3.2 DESILTING ARRANGEMENT

Type	Surface, Central silt gutter type tank.
Size	One chamber of 30.00 m \times 3.50 m \times 3.00 m without inlet and outlet transitions.
Particle size to be excluded	All particles down to 0.20 mm size.
Flushing discharge	0.40 cumecs

3.3 WATER CONDUCTOR SYSTEM

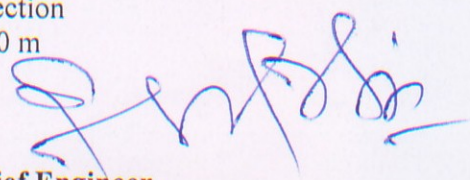
a) Head Race Tunnel

Type	D-shaped tunnel
Size	1.80 m \times 2.10 m
Length	600 m
Slope	1 in 500

b) Power Channel

Type	Rectangular open channel
Size	1.20 m \times 1.50 m
Length	\pm 900 m
Slope	1 in 600
Design discharge	1.53 cumecs

	Velocity	1.30 m/sec.
3.4	FOREBAY	
	Type	Surface
	Size	30.00 m×5.00 m×4.00 m
	Peaking time	±3 minutes
	Storage capacity live	293 cum
	Full Forebay Level	El±1993.50 m
	Minimum Draw Down Level	El±1991.50 m
3.5	PENSTOCK	
	Type	Circular, surface steel penstock
	Size	1000 mm dia,
	Thickness	Varying between 8 mm to 22 mm
	Length	±724.00 m
	Velocity	2.00 m/sec.
	Centre line at forebay intake	El±1989.50 m
	Number of Branch penstocks	Three
	Size of Branch penstocks	650 mm dia. each
3.6	POWER HOUSE	
	Type	Surface
	Size of power house	
	• Length	36.50 m
	• Width	11.50 m
	• Height	9.00 m
	Installed capacity	5.00 MW (3 units of 1666 kW each)
	Gross Head	±400.00 m
	Net head	±388.00 m
	Floor level of service bay	EL ± 1599.60 m
	Max tail water level	EL ± 1599.00 m
	Turbine	
	• Type	Horizontal shaft Pelton turbine
	• Number	Three
	• Speed	1000 rpm
	• Capacity	1718.75 kW each
	Generator	
	• Type	Horizontal shaft Synchronous, Brushless
	• Number	Three
	• Rated out put	1666 KW each
	• Rated Voltage	3.3 kV
	• Frequency	50 Hz
	• Power factor	0.9 lag
	• Continuous Over Loading	15 %
3.7	TAIL RACE	
	Type	RCC box section
	Size	1.20 m×1.50 m
	Length	±25.00 m


Chief Engineer,
Directorate of Energy, GoHP,
Phase III, Sector VI,
New Shimla-171009(HP).

