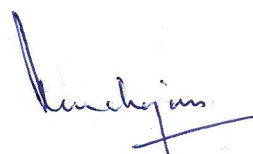


**DIRECTORATE OF ENERGY**  
**GOVERNMENT OF HIMACHAL PRADESH**  
**SHANTI BHAWAN, PHASE-III, SECTOR-VI, NEW SHIMLA-171009(HP)**

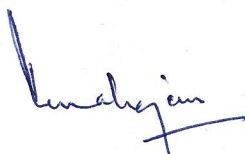
**OFFICE ORDER**

Directorate of Energy(DOE), Govt. of Himachal Pradesh, is pleased to accord Techno Economic Clearance(TEC) to Lower Kurpan-II SHP (4.80MW) on Kurpan khad a tributary of Kurpan Nallah in Satluj basin, District Kullu, Himachal Pradesh of "M/S Himprabha Power Pvt Ltd, Village Karnguhi, PO Panthera, Tehsil Ghumarwin, Distt Bilaspur (HP)", at an estimated cost of Rs. 3938.00 lac (Rupees three thousand nine hundred thirty eight lac) only including Interest During Construction (IDC), Escalation, Financial Charges(FC) and LADC @ 1.00% of total project cost with the following stipulations:

- 1.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 actuals but not exceeding the amount as indicated in Annex-I, unless revised by GoHP/DOE 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 M/S Himprabha Power Pvt Ltd, Distt. Bilaspur(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.

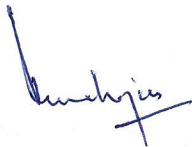


- xi) The cost of providing and /or strengthening/additions etc. of the system at and beyond the Interconnecting Sub Station which may also include the cost of replacement of switchgear/protection and provision of shunt capacitors, strengthening of bus bars, apart from other works required at injection voltage level and other one or more successively higher voltages, civil works relocation of existing bays etc. shall be recovered by HPSEBL/HPPTCL 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/HPPTCL as per the final decision of the competent authority.
- xii) Whereas the HPSEBL/HPPTCL 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/HPPTCL 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 at 66/22 kV substation at Nogli at 22 kV level by constructing 22 kV line on 0.15 sq. in. ACSR "WOLF" conductor, in joint mode with Chatarkhand SHP(1.50MW), upto Nogli sub station. This arrangement is subject to the augmentation of 66/22 kV, 10 MVA Nogli sub station to 30 MVA sub station. The cost of augmentation of Nogli sub station shall be proportionally shared by all the IPPs interfacing their power at Nogli.
- xvii) The above mentioned evacuation arrangements shall be subject to the 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 will 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 the Pollution Control Board 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 DOE, GoHP 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 24 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 DoE, GoHP..

BY ORDER OF THE GoHP

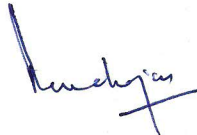
  
Chief Engineer,  
Directorate of Energy, GoHP,  
New Shimla-171009(HP).

No. DOE/CE(Energy)/TEC-Lower Kurpan-II/ 2012- 5013-21

Dated:- 01.10.2012

Copy for information and necessary action to the:

- 1) Addl Chief Secretary (MPP & Power) to HP Govt., Shimla-171002.
- 2) Addl Chief 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 Himprabha Power Pvt Ltd, Village Karnguhi, PO Panthera, Tehsil Ghumarwin, Distt Bilaspur (HP).

  
Chief Engineer,  
Directorate of Energy, GoHP,  
New Shimla-171009(HP).

## ANNEXURE-I

Lower Kurpan-II SHP(4.80MW) in District Kullu, Himachal Pradesh of "M/S Himprabha Power Pvt Ltd, Village Karnguhi, PO Panthera, Tehsil Ghumarwin, Distt Bilaspur (HP)"

## ABSTRACT OF COST ESTIMATE

Sr. No.	Description of works	Amount (In Rs lac)	
(a)			
1.	Civil works i/c other Misc. Expenses	2556.21	} Price Level June, 2012
2.	Electro Mechanical works	890.00	
3.	Transmission works	79.00	
	<b>Sub Total (a)</b>	<b>3525.21</b>	
(b)			
1.	Escalation	57.54	
2.	Interest During Construction(IDC)	287.97	
3.	Financial Charges (FC)	28.46	
	<b>Sub Total (b)</b>	<b>373.97</b>	
	<b>Total (a+b)</b>	<b>3899.18</b>	
(c)	LADC @1.00 % of (a+b)	38.99	
	<b>Grand Total (a+b+c)</b>	<b>3938.17</b>	
		Say Rs 3938.00 lac	

(Rupees three thousand nine hundred thirty eight lac only)

*Kunahyan*

*[Signature]*  
Chief Engineer,  
Directorate of Energy, GoHP,  
New Shimla-171009(HP).

## ANNEXURE-II

Lower Kurpan-II SHP(4.80MW) in District Kullu, Himachal Pradesh of "M/S Himprabha Power Pvt Ltd, Village Karnguhi, PO Panthera, Tehsil Ghumarwin, Distt Bilaspur (HP)".

## LIST OF STATUTORY AND ADMINISTRATIVE CLEARANCES REQUIRED

Sr.No.	ITEM	AGENCY	REMARKS
1.	WATER ABAILABILITY	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.	Indian 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.of E&F G.O.I.	Coordination with State Forest Deptt./ Min. of Environment & Forest (MOE&F) regarding Forest (Conservation) Act, 1980.
5.	ENVIRONMENT & FOREST CLEARANCE	1. State Govt 2. Min.of E&F G.O.I.	As per item (3) & (4) and 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 G.O.I.	
8.	EQUIPMENT PROCUREMENT	DGTD, CCI& E	Import & Export Acts.

*Karnguhi*

*1/19/2012*  
Chief Engineer,  
Directorate of Energy, GoHP,  
New Shimla-171009(HP).

## ANNEXURE-III

Lower Kurpan-II SHP(4.80MW) in District Kullu, Himachal Pradesh of "M/S Himprabha Power Pvt Ltd, Village Karnguhi, PO Panthera, Tehsil Ghumarwin, Distt Bilaspur (HP)"

## SALIENT FEATURES

<b>I LOCATION</b>		
a.	State	: Himachal Pradesh
b.	District	: Kullu
c.	Vicinity	: Rampur, Nirmund.
d.	Proposal	: Diversion weir is proposed on Kurpan khad at EL $\pm$ 1065.00m and Power House is proposed on left bank of Kurpan at EL $\pm$ 867.00 m U/S of Confluence point of Kurpan khad with Satluj river.
e.	Access : Road	: 125 km from Shimla on Shimla-Rampur
	: Air port	: Road National Highway-22.
	: Railway	: Jubbarhatti, Shimla.
f.	Geographical Coordinates	: Shimla (NG)-125 km., Kalka (BG)-215 km
	* Longitude	
	* Latitude	: 77 <sup>0</sup> -33'-01" to 77 <sup>0</sup> - 34'-25" East
	* Highest Altitude	: 31 <sup>0</sup> -22'-58" to 31 <sup>0</sup> -26'-22" North
g.	Topographical sheet	: 5140 m above MSL
		: GIS images used (drawings attached)
<b>II HYDROLOGY</b>		
a.	Stream	: Kurpan khad
b.	Tributary of/Basin	: Satluj river/Satluj basin
c.	Catchments area above weir site	: 219 Sq. km
d.	Design Discharge	: 3.20 cumecs
e.	Design Flood Discharge	: 587.00 cumecs.
f.	H.F.L.	: <b>Weir site</b> <b>Power house site</b>
		EL $\pm$ 1068.66 m EL + 857.85 m
g.	Temperature	:
<b>III PROJECT COMPONENTS</b>		
<b>A DIVERSION STRUCTURE</b>		
a.	Type of structure	: Trench type Weir
b.	Crest Level of Weir	: EL $\pm$ 1065.00 m
c.	Length	: 30.00 m
d.	Width of the Trench	: 1.50 m
e.	Depth at Sloping end	: 1.80 m
f.	Design Discharge	: 4.80 cumecs i/c for flushing
g.	Trash Racks Slope	: 1 in 10
<b>B. FEEDER CHANNEL (From Diversion weir to Desilting tank)</b>		
a.	Type/Shape.	: Rectangular channel
b.	Size.	: 2.00 m x 2.00 m
c.	Length	: 350.00 m
d.	Design Discharge	: 4.80 Cumecs i/c for flushing
e.	Velocity of flow	: 1.55 m/sec
f.	Bed Slope	: 1:400

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<b>C.</b>	<b>DESILTING TANK</b>	
a.	Type	
b.	Size	: Surface, Conventional Hopper Type
c.	Flow velocity	: 50.00 m x 7.50 m x 5.00 m (Av. Depth)
d.	Particle size to be removed.	: 0.20 m/sec
e.	Silt Flushing Valve	: 0.15 mm and above
f.	Normal Water Level	: 600 mm dia
		: EL + 1063.97 m
<b>D.</b>	<b>HEAD RACE/POWER CHANNEL (From Desilting tank to tunnel intake)</b>	
a.	Shape.	: Rectangular channel
b.	Size.	: 1.60 m x 1.60 m
c.	Length	: 385.00 m
d.	Design Discharge	: 3.20 cumecs
e.	Velocity of flow	: 1.54 m/Sec
f.	Bed Slope	: 1:500
<b>E.</b>	<b>HEAD RACE TUNNEL (from Power channel outlet to Forebay)</b>	
a.	Type/Shape.	: D-shaped tunnel
b.	Size.	: 1.80 m x 1.80m
c.	Length	: 3940.00 m
d.	Design Discharge	: 3.20 cumecs
e.	Velocity of flow	: 1.41 m/sec
f.	Bed Slope	: 1:500
<b>F.</b>	<b>FOREBAY TANK</b>	
a.	Type	
b.	Size	: Surface Hopper Type
c.	Storage capacity	: 27.50 m x 5.00 m x 6.50 m
d.	Peaking storage time	: 576.00 cum
e.	Design discharge	: 3.00 min
f.	Full Supply Level (FSL)	: 3.20 cumecs
g.	Minimum Draw Down Level (MDDL)	: EL + 1049.49m
h.	C/L of penstock entry	: EL + 1047.49m
		: EL + 1045.64 m
<b>G.</b>	<b>PENSTOCK</b>	
a.	Type	
b.	Number	: Circular, surface steel pipe
c.	Design Discharge	: One
d.	Size of the main penstock	: 3.20 Cumecs.
e.	Length of the main Penstock	: 1150.00 mm dia.
f.	Plate thickness of main Penstock	: 320.00 m
g.	Steel Liner	: Varies from 8 mm to 20 mm
h.	Number of branches	: IS 2002 Gr-II
i.	Size of branch penstock	: Two
j.	Length of branch penstock	: 800.00 mm dia.
k.	Plate thickness of branch penstock	: 15.00 m of each
l.	Size of MIV	: 20.00 mm each
		: 500 mm dia.
<b>H.</b>	<b>POWER HOUSE</b>	
a.	Type	
b.	Capacity	: Surface Power House
c.	Size	: 4.80 MW (2 units of 2.40 MW each)
d.	Gross Head	: 31.50 m(L) x 15.00 m(W) x 12.60 m(H)
		: 198.00 m

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e.	Designed Net Head	:	179.28 m
f.	C/L of turbine in Power House	:	EL ± 867.00m
g.	Service Bay Floor Level	:	EL ± 867.45m
h.	Power House Crane	:	30 MT
<b>i.</b>	<b>Turbine(s)</b>		
	• Type	:	Horizontal shaft Francis
	• Number	:	Two
	• Rated Output	:	2400 KW each
	• Speed	:	1500 rpm
<b>j.</b>	<b>Generator(s)</b>		
	• Type	:	Horizontal shaft Synchronous
	• Number	:	Two
	• Rated capacity	:	2400 KW each
	• Rated Generation Voltage	:	3.3 kV
	• Rated Frequency	:	50 Hz
	• Power factor	:	0.9 lag
	• Excitation System	:	Brushless
	• Overloading capacity	:	15 %
<b>I</b>	<b>TAIL RACE</b>		
a)	Shape	:	Rectangular channel
b)	Length	:	30.00 m
c)	Size	:	1.75 m x 1.75 m
d)	Bed Slope	:	1:200

*Handwritten signature*

*Handwritten signature and date: 1/11/2012*

Chief Engineer,  
 Directorate of Energy, GOHP  
 New Shimla-171009(HP).