

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

OFFICE ORDER

Directorate of Energy (DoE), Govt. of Himachal Pradesh, is pleased to accord Techno Economic Clearance (TEC) to Chaned SHP (1.00 MW) on Kohlari Nallah a tributary of Ravi River in Ravi basin in District Chamba (HP) allotted to "M/s OHP Project (P) Ltd, Mohalla Sapri, Tehsil & Distt. Chamba-176310 (HP)" at an estimated cost of Rs. 929.00 lacs (Rupees nine hundred twenty nine lacs) 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 completion cost 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 at Annex-I, unless revised by DoE, GoHP while according Techno Economic Clearance (TEC) under Section-8 of Indian Electricity Act 2003 after review of the financial package.
 - b) Change in rates of Indian taxes and duties such as Excise Duty, Sales Tax/VAT, Custom Duty and levy of any other taxes/duties subsequent to issue of Techno Economic Concurrence.
 - c) Change in Indian law resulting in change to 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 Techno Economic Concurrence.
 - 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) In case, changes are made in design parameters during construction due to site conditions or otherwise, the same shall be intimated and got Concurred from DoE, GoHP before implementation of such changes.
 - vii) 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 OHP Project (P) Ltd, Mohalla Sapri, Tehsil & Distt. Chamba-176310 (HP)".
 - viii) No additional cost shall be allowed due to Resettlement & Rehabilitation (R&R) Plan.
 - ix) Normal operation life of the hydro power plant shall be as per provisions of CWC/CEA guidelines or CERC/HPERC regulations.



- x) The statutory and administrative clearances as per Annex-II shall be obtained before execution/ implementation of the project.
- xi) The interconnection point with the State grid and interconnection facilities at the interconnection point shall be provided, operated and maintained at the cost of the IPP.
- xii) 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/decisions by HPERC and/or any other competent authority as may be finally applicable. The share of IPP on this account shall be paid by the IPP to HPSEBL/HPPTCL as per the final decision of the competent authority.
- xiii) Whereas the HPSEBL/HPPTCL shall endeavor to provide the evacuation system at the earliest, the scheduled 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.
- xiv) The powerhouse generating equipment as well as other electrical equipment to be provided by the IPP shall be compatible for parallel operation with the State grid after interfacing. The IPP shall be responsible for any loss of generation on this account.
- xv) O&M charges for maintenance of inter connection 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.
- xvi) For evacuation of power the IPP shall interface this project with 33/11 kV substation of HPSEBL at Bhanota (unmanned) by constructing 33 kV line from project site to Bhanota substation along with 33 kV bay and terminal equipment for which the entire cost shall have to be borne by the IPP. As the IPP has given undertaking, no deemed energy charges shall be claimed so long as the substation remains unmanned and if in future the Sub-station is changed to manned Sub- station, the applicable O& M charges will be borne by IPP/Promoter.
- xvii) The project line shall be provided, operated and maintained by the IPP at his own cost as per normal conditions after obtaining approval of HP Govt. under Section 68(1) of the Electricity Act, 2003.
- xviii) The above mentioned evacuation arrangements shall be subject to the HPERC approval of "Comprehensive area wise plan for augmenting and establishing of transmission/ sub- transmission system for evacuation of power from small HEPs" which has already been submitted to HPERC. The Transmission/Distribution Licensee may however also evolve alternate system(s) depending on the site conditions and subsequent developments with the approval of HPERC.
- xix) The IPP shall develop operate and maintain the Project including the dedicated transmission system subject to compliance with 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 IPP will only be allowed to inject power in HP system with the undertaking that 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 Dispatch Society, Totu, Shimla from compatibility point of view with existing SCADA system.



- xx) The Hydro generating units shall be capable of generating up to 110% of rated capacity (Subject to rated head being available) on continuous basis as per Sr. No 7 (Part-II) of Ministry of Power (Central Electricity Authority) notification No 12/X/STD (CONN) GM / CEA dated 15/10/2013 and subsequent amendments thereof.
- xxi) The conditions on these lines shall have to be suitably included by the IPP in the PPA etc. apart from other standard conditions.
- xxii) The observations of DoE, GoHP on the DPR and replies thereof shall form an integral part of the DPR.
- xxiii) Minimum 15% release of water immediately downstream 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 per recommendations of the Pollution Control Board shall be installed by the IPP during execution of the project.
- xxiv) LADC/LADF amount and activities shall be implemented as per Power policy of HP Govt., 2006 and subsequent amendments thereof.
- xxv) The additional 1% (one percent) free power from the project shall be provided and earmarked for a Local Area Development Fund (LADF) as per HP Govt. Notification No. MPP-F(1)-2/2005-V dated 30.11.2009 and subsequent amendments thereof.
- xxvi) The Techno Economic Clearance (TEC) is based on the reports and data furnished by the IPP in the DPR and it is presumed that information furnished is correct and has been collected reliably after carrying out detailed field investigations and surveys under the supervision of competent personnel. The broad technical aspects of the project proposal in the DPR have been scrutinized and it does not cover the examination of the detailed designs and working drawings of project components in regard to their structural, hydraulic and mechanical performance & safety which shall be ensured by the project authority/IPP.
3. The project shall be completed within 24 months from the date of start of the construction work.
4. The completion cost of the scheme shall be submitted to DoE, GoHP within 3 months from the Commercial Operation Date (COD) of the plant.
5. The Project Promoters/IPP 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 (TEC) to the scheme by DoE, GoHP and actual start. of work by the IPP is three years or more, a fresh Techno Economic Clearance (TEC) of DoE, GoHP shall be obtained by the IPP before start of actual work.
8. The DoE, GoHP reserve the right to revoke the Techno Economic Concurrence (TEC), if the conditions stipulated above are not complied with to the satisfaction of the GoHP.

BY ORDER OF THE GoHP

18/11/2019
**Chief Engineer (Energy),
 Directorate of Energy, GoHP,
 New Shimla-171009 (HP)**

No. DoE/CE(Energy)/TC-Chaned/ 2019-10948-56 Dated:- 18/01/2019

Copy for information and necessary action to the:

1. The Principal Secretary (MPP & Power) to H.P. Govt., Shimla-171002(HP).

PSU

2. The Principal Secretary (NES) to H.P. Govt., Shimla-171002(HP).
3. The Secretary, Ministry of Non-Conventional Energy Sources (MNES), Block No.14, CGO Complex, Lodhi Road, New Delhi-110003.
4. The Director, Environmental & Scientific Technologies, Narayan Villa, Near Wood Villa Palace, Shimla-171002(HP).
5. The General Manager (C&D), HPPTCL, Himfed Building, Tutikandi, Shimla-171004(HP).
6. The Chief Engineer (System Operation), HPSEB Ltd, Vidyut Bhawan, Shimla-171004 (HP).
7. The Chief Engineer (Commercial), HPSEB Ltd, Vidyut Bhawan, Shimla-171004(HP).
8. The Chief Executive Officer, Himurja, 8A-SDA Complex, Kasumpti, Shimla-171009.
9. M/s OHP Project (P) Ltd, Mohalla Sapri, Tehsil & Distt. Chamba-176310 (HP).

18/11/2019
**Chief Engineer (Energy),
Directorate of Energy, GoHP,
New Shimla-171009 (HP)**

PSU

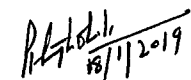
ANNEXURE-I

Chaned SHP (1.00 MW) in District Chamba of Himachal Pradesh allotted to "M/s OHP Project (P) Ltd, Mohalla Sapri, Tehsil & Distt. Chamba-176310 (HP)".

ABSTRACT OF COST ESTIMATE

Sr. No.	Description of works	Amount (Rs in lac)	
a)			
i)	Civil works i/c other Misc. Expenses	454.72	} Price Level December, 2016
ii)	Electro Mechanical works	321.54	
iii)	Transmission works	34.72	
	Sub Total (a)	810.98	
b)			
i)	Interest During Construction (IDC)	58.10	
ii)	Escalation	40.60	
iii)	Financial Charges(FC)	9.70	
	Sub Total (b)	108.40	
	Total (a+b)	919.38	
(c)	LADC @ 1% of (a+b)	9.19	
	Grand Total (a+b+c)	Rs. 928.57 lacs	
		Say Rs. 929.00 lacs	

(Rupees nine hundred twenty nine lacs only)


 Chief Engineer (Energy),
 Directorate of Energy, GoHP,
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ANNEXURE-II

Chaned SHP (1.00 MW) in District Chamba of Himachal Pradesh allotted to "M/s OHP Project (P) Ltd, Mohalla Sapri, Tehsil & Distt. Chamba-176310 (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.	Indian Electricity Act, 2003.
3.	POLLUTION CLEARANCE WATER AND AIR	State/Central Pollution Control Board	Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control 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.

R. K. Jolly
18/11/2019
Chief Engineer (Energy),
Directorate of Energy, GoHP,
New Shimla-171009 (HP)

Chaned SHP (1.00 MW) in District Chamba of Himachal Pradesh allotted to "M/s OHP Project (P) Ltd, Mohalla Sapri, Tehsil & Distt. Chamba-176310 (HP)".

SALIENT FEATURES

I LOCATION

State	Himachal Pradesh	
District	Chamba	
Tehsil / Village	Chaned	
Vicinity	Chaned	
Proposal	Diversion Weir is proposed on Kohlari Nallah at an El. \pm 934.80 m and surface power house on left bank of Kohlari Nallah at an El. \pm 841.50 m.	
Accessibility By Road	350 km from Shimla and 15 km from Chamba Headquarter.	
By Rail	BG - Pathankot	
By Air	Gaggal, Kangra	
Geographical co-ordinates	Longitude	Latitude
Weir site	76° 04' 32" E	32° 36' 04" N
Power House site	76° 04' 53" E	32° 36' 31" N
SOI Toposheet	52D/02	

II HYDROLOGY

Name of khad/ basin	Kohlari Nallah / Ravi	
Tributary of / Basin	Ravi river	
Catchment area up to diversion site	22.50 Sq. Km	
Design discharge	1.40 cumces	
Design flood	154.00 cumecs	
HFL	Weir	Power House
	<u>+937.00 m</u>	<u>+838.70 m</u>

III PROJECT STRUCTURES

A DIVERSION WEIR

Type	Trench type weir
Size	8.00 m (Long), 1.10 mn(Wide)
Depth	1.70 m
Trash Rack/River bed Level	EL + 935.30 m
Full supply level	EL + 935.00 m
Design discharge	1.40 cumecs plus flushing & OL dis.
Intake type	Well type
Size of Intake	1.30 m x 1.07 m
Shingle Flushing pipe	400 mm dia.,
Flushing discharge	0.35 cumces

B CONVEYANCE / FEEDER CHANNEL (Weir intake to De-silting tank)

Type	RCC rectangular box Channel
Size	1.30 m x 1.07 m i/c 0.30 m FB
Length	± 20.00 m
Slope	1 in 250m
Design discharge	1.40 cumecs plus flushing & OL dis.
Velocity	1.75 m / sec

C DESILTING ARRANGEMENT

Type	Gravity Type D-Tank
Size	32.00 m (L)x 4.00 m(W) x3.30 m to 4.55 m(D) with inlet and outlet transitions.
Design Discharge	1.40 cumecs plus flushing & OL dis.
Velocity	0.22 m/sec
Particle size to be removed	0.20 mm size and above
Full Supply Level	EL ± 934.92 m
Flushing arrangement	M. S. Flushing Pipe of 300 mm dia..
Shape	Gutter type
Size of flushing gutter	0.30 m x 0.30 m

D WATER CONDUCTOR SYSTEM (POWER CHANNEL)

Type of Channel	RCC Rectangular Box channel
Size of Channel	0.75 m x 1.50 m i/c 0.30 m FB
Length	±850.00 m
Slope	1 in 300
Design discharge	1.40 cumecs plus OL dis.
Velocity	1.57 m/ sec

E FOREBAY

Type	Surface RCC rectangular Tank
Size	30.00 m x 3.00 m x 4.82 m
Peaking time	± 2 minutes
Live Storage capacity	168.00 m ³
Design discharge	1.40 cumecs plus OL
Top Level	EL ±932.74 m
FSL	EL±932.09 m
MDDL	EL± 930.09 m
Bed level	EL+ 927.92 m
Penstock entry level	EL +928.77 m
Crest level of spillway	EL ±932.19 m
Size of spillway	7.00 m x 1.75 m x 2.00 m

F PENSTOCK

Type	Circular, Surface mild steel penstock
Number/ size of main penstock	One / 750 mm dia.



Thickness	8.00 mm to 16mm
Length	± 120.00m
Material of steel liner	SAW Mild Steel Pipe / IS 2002 Gr-II
Design discharge	1.40 cumecs plus OL dis.
Velocity	3.49m/sec
Number of branches	Two
Length of branch penstock	± 8.50 m
Dia. of branch penstock	530 mm

G POWER HOUSE

Type	Surface Power House
Size	20.45 m x 11.55 m x 6.00 m
Floor level	EL ±841.50 m
C/L of jet	EL ±842.50 m
Installed capacity	1.00 MW (2 units of 500 kW each)
Gross Head	± 91.09 m
Net head	± 87.50 m
Powerhouse Crane	HOT / EOT, 8 Ton capacity

Turbine

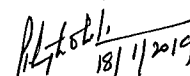
Type	Horizontal Shaft Francis Turbine
Number	Two
Rated capacity	500 kW each
Overloading capacity	10%
Speed	1500 rpm

Generator

Type	Horizontal synchronous generator
Number	Two
Rated capacity	500 kW each
Speed	1500 rpm
Power Factor	0.90 lag
Rated Voltage	415 Volts
Rated Frequency	50 Hz
Overloading capacity	10%

H TAIL RACE

Type	RCC box section
Size	1.20 m x 0.88 m i/c 300 mm FB
Length	± 30.00 m
Bed Slope	1 in 150


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