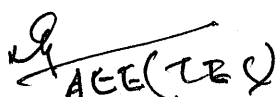


**DIRECTORATE OF ENERGY
GOVERNMENT OF HIMACHAL PRADESH
SHANTI BHAWAN, PHASE-III, SECTOR-VI, NEW SHIMLA-171009 (HP)**

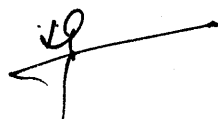
OFFICE ORDER

Directorate of Energy (DoE), Government of Himachal Pradesh, is pleased to accord Technical Concurrence (TC) to Shanag Middle MHEP (100 kW) within elevation range of El.± 2135.00 m to El.± 2100.00 m on Halindi Stream, tributary of Beas river in Distt. Kullu, Himachal Pradesh allotted to "M/s Prakash Chand, S/o Nokhu, V.P.O- Shanag, Tehsil Manali, Distt. Kullu, H.P.", at an estimated cost of Rs. 182.10 (Rupees One Hundred Eighty Two Lakh and Ten Thousand only) including Interest During Construction (IDC), Escalation, Financial Charges (FC) and Local Area Development Fund (LADF) @ 1% (one percent) of total project cost with the following stipulations:-

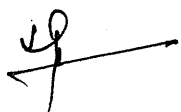
1.
 - i) The abstract of the Estimated Cost approved by DoE, GoHP is enclosed at **Annex-I** and the Salient Features of the scheme are enclosed at **Annex-II**.
 - ii) The completion cost shall not exceed the above cost except on account of the following:-
 - a) Interest During Construction (IDC) and Financial Charges (FC) shall be as per actuals but not exceeding the amount as indicated at **Annex-I**, unless revised by DoE, GoHP while according concurrence 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 Goods and Service Tax (GST), Custom Duty and levy of any other taxes/duties subsequent to issue of Technical Concurrence (TC).
 - c) Change in Indian law resulting in change in the cost.
2. The Technical Concurrence (TC) is subject to the fulfilment of the following conditions:
 - i) Completed cost/Technical Concurrence (TC) 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 Concurrence.
 - iii) As proposed and agreed upon by the developer during appraisal of the DPR, the project is viable by considering Central Financial Assistance (CFA)/MNRE subsidy. 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) Fulfilment 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 "M/s Prakash Chand, S/o Nokhu, V.P.O- Shanag, Tehsil Manali, Distt. Kullu, H.P."
 - viii) No additional cost shall be allowed due to Resettlement & Rehabilitation (R&R) Plan.


ACE(TB)

- ix) Normal operation life of the hydro power plant shall be as per provisions of latest CWC/CEA guidelines or Central Electricity Regulatory Commission (CERC)/ Himachal Pradesh Electricity Regulatory Commission (HPERC) regulations.
- x) The statutory and administrative clearances as per Hydro Power Policy of HP Govt. for setting up of Micro Hydel Projects up to 100 kW in the state shall be obtained before implementation of the project.
- xi) For evacuation of power, 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 Developer.
- 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 Developer on this account shall be paid by the Developer to Himachal Pradesh State Electricity Board Limited (HPSEBL)/ Himachal Pradesh Power Transmission Corporation Limited (HPPTCL) as per the final decision of the competent authority.
- xiii) Whereas the HPSEBL/HPPTCL shall endeavour to provide the power 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 equipments as well as other electrical equipments to be provided by the Developer shall be compatible for parallel operation with the State grid after interfacing. The Developer 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 Developer to HPSEBL/HPPTCL throughout the period, the Developer runs the project and the same shall be reviewed at the beginning of every financial year.
- xvi) The power of Shanag Middle MHEP (100 kW) can be evacuated through existing 11 kV Burwa feeder by providing solid tap arrangement at 250 kVA, 11/0.4 kV DTR subject to following conditions :-
 - a) The IPP shall bear the cost of construction of 11 kV dedicated HT line from power house to inter connection point and the inter connection facilities.
 - b) The IPP shall arrange necessary right of way for dedicated HT line and inter connection facilities. It shall also arrange land for inter connection facilities.
 - c) The IPP shall not be allowed any deemed generation benefits due to back down of power generation on account of system constraints.
 - d) The losses on account of wheeling of power upto the 33/11 kV substation Palchan shall be borne by the IPP.
 - e) The IPP shall provide appropriate protection arrangements as per CEA safety code at the inter connection point.
- xvii) The project line shall be provided, operated and maintained by the Developer at his cost as per normal conditions after obtaining approval of HP Govt. under Section 68(1) of Electricity Act, 2003.



- xviii) The Developer 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 Developer 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 SLDC, HP Load Dispatch Society, Shimla from compatibility point of view with existing Supervisory Control and Data Acquisition (SCADA) system.
- xix) 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.
- xx) The conditions on these lines shall have to be suitably included by the Developer in the PPA etc. apart from other standard conditions.
- xxi) The observations of DoE, GoHP on the DPR and replies thereof shall form an integral part of the DPR.
- xxii) Minimum 15% release of water immediately downstream of diversion structure shall be ensured all the times including lean season as per prevailing GoHP notification. The necessary monitoring equipment as prescribed by the Pollution Control Board for the same shall be installed by the IPP during execution of the project.
- xxiii) The levels as specified and approved shall strictly be adhered to for construction of project, also the riparian distances within upstream and downstream projects as per allotment of projects or any other project specific directions / conditions shall be maintained.
- xxiv) The proposed arrangement of laying Penstock with length 358 m should be designed w.r.t all necessary parameters of earth pressure/water pressure in empty/full condition, earthquake condition and with regard to all safety standards norms. The design should be vetted from an authorized & approved agency.
- xxv) LADF/LADC and local area development activities shall be applicable as per Hydro Power Policy of HP Govt. for setting up of Micro Hydel Projects upto 100 kW in the state.
- xxvi) The TC is based on the reports and data furnished by the Developer in the DPR and the relevant information provided therein. 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 scrutiny of DPR does not cover the examination of the detailed designs & working drawings of project components in regard to their structural, hydraulic and mechanical performance, safety and also of their positioning and fixing at site. This shall be ensured by the Developer as per standard norms & manuals.
3. The project shall be completed within 18 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 IPP's shall give free accessibility to the officers and representatives of DoE, Himurja and other relevant Govt. Departments, Commissions etc. 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 (IA)/Supplementary Implementation Agreement (SIA).
7. In case the time gap between the Technical Concurrence (TC) of the scheme and actual start of work on the project is three years or more, a fresh Concurrence shall be obtained from DoE, GoHP before start of actual work.
8. The DoE, GoHP reserve the right to revoke the TC, if the conditions stipulated above are not complied with to the satisfaction of the GoHP.

BY ORDER OF THE GoHP

K. S. NAKH
**Chief Engineer,
Directorate of Energy, GoHP,
New Shimla- 171009(HP).**

No. DoE/CE(Energy)/TC-Shanag Middle/2021- 5679-88

Dated: 18/10/2021

Copy for kind information and necessary action please, to the:-

1. The Addl. Chief Secretary (MPP & Power) to H.P. Govt., Shimla-171002.
2. The Addl. Chief Secretary (NES) to H.P. Govt., Shimla-171002.
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.
5. The Deputy Commissioner, Distt. Kullu, Himachal Pradesh – 175101.
6. The General Manager, HPPTCL, Himfed Bhawan, Panjari, Below Old MLA Quarters, Shimla-171005.
7. The Chief Engineer (SP), HPSEB Ltd, Uttam Bhawan, Dogra Lodge, Shimla-171004.
8. The Chief Engineer (SO), HPSEB Ltd, Vidyut Bhawan, Shimla –171004.
9. The Chief Executive Officer, Himurja, 8A-SDA Complex, Kasumpti, Shimla-171009.
10. M/s Prakash Chand, S/o Nokhu, V.P.O- Shanag, Tehsil Manali, Distt. Kullu, H.P.

K. S. NAKH
**Chief Engineer,
Directorate of Energy, GoHP
New Shimla-171009(HP).**

VP
AEE(TEC)

Shanag Middle MHEP (100 kW) in Distt. Kullu of Himachal Pradesh allotted to "M/s Prakash Chand, S/o Nokhu, V.P.O- Shanag, Tehsil Manali, Distt. Kullu, H.P."

ABSTRACT OF COST ESTIMATE

Sr.No.	Description of work	Cost (Rs. in lakh)	
(a)			
i)	Civil works i/c other Misc. expenses	103.24	} Price level Jan, 2021
ii)	Electro Mechanical Work	60.89	
iii)	Transmission Works	0.75	
	Sub-total (a)	164.88	
(b)			
i)	Interest During Construction (IDC)	9.75	
ii)	Escalation	4.73	
ii)	Financial Charges	1.82	
	Sub-total (b)	16.30	
	Grand Total (a+b)	182.10 Lakh	

(Rupees One Hundred Eighty Two Lakh and Ten Thousand only)

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

JP
TEE(TEC)

ANNEXURE-II

Shanag Middle MHEP (100 kW) in Distt. Kullu of Himachal Pradesh allotted to "M/s Prakash Chand, S/o Nokhu, V.P.O- Shanag, Tehsil Manali, Distt. Kullu, H.P."

SALIENT FEATURES

I. LOCATION

State	Himachal Pradesh
District	Kullu
Village	Near Shanag village
River/ Nallah	Halindi Stream, a Tributary of Beas river
Proposal	Diversion weir on Halindi Stream at El. 2135 m and Power House site on left bank of Halindi Stream at El 2102 m with Min. Tail Water Level at El 2100.00 m.
Accessibility	By Road 8 km from NH3 (near manali)
	By Rail 171 km (Joginder Nagar Railway station)
	By Air 57 km (Bhuntar Kullu)

Geographical Coordinates

	Longitude	Latitude
• Weir	77° 10' 3.85" E	32° 17' 3.91" N
• Power House	77° 10' 16.53" E	32° 16' 59.82" N
SOI Topo sheet	52 H/3	

II. HYDROLOGY

Stream	Halindi
Tributary of	Beas river
Catchment area at diversion site	12.50 Sq. km.
Design discharge	0.42 cumecs
Design flood	73 cumecs
HFL	Weir El 2136.00 m
	Power House El 1999.50 m

III. PROJECT COMPONENTS:-

A. DIVERSION STRUCTURE/INTAKE

Type	RCC trench type weir
Size	7.00 m (L) x 0.75 m (W)
Depth	Varies from 0.50 m to 1.00 m
Design discharge	0.42 cumecs plus flushing and overloading discharge
Crest level at weir	El 2135.00 m
Type of Intake	Well Type
Size of Intake	1.50 m (L) x 1.00 m (W) x 3.24 m (D)

B. FEEDER PIPE (Intake to De-silting Tank)

Size	0.64 m ϕ
Length	10.00 m
Design discharge	0.42 cumecs plus flushing and overloading discharge


AEE (TEC)

Velocity 1.758 m/sec

C. DESILTING CUM FOREBAY

Type	RCC Surface tank
Size	10.00 m (L) x 2.50 m (W)
Depth	3.24 m
Design Discharge	0.42 cumecs plus flushing and overloading discharge
Full Supply Level	El. 2134.99 m
Min. Draw Down Level	El. 2133.91 m

D. PENSTOCK

Type	Mild Steel fabricated pipe
Number /size of main penstock	One/ 490 mm ϕ
Length of main penstock	358 m
Plate Thickness	Varies from 6 mm to 10 mm
Material of steel liner	IS: 2062 grade B

E. POWER HOUSE

Type	Surface Power House
Size	10.00 m (L) x 6.00 m (W) x 5.00 m (D)
C/L of Jet	El 2102 m
Installed Capacity	100 kW
Gross Head	32.99 m
Net Head	29.02 m
Power House Crane	EOT crane

TURBINE

Type of Turbine	Horizontal Shaft Francis Turbine
Number	1 Nos.
Rated capacity	100 kw (each)
Rated Speed	800 rpm

GENERATOR

Type	Synchronous
Number	1 Nos.
Rated capacity	100 kW (each)
Power Factor	0.9 lag
Rated Voltage	415 volts
Rated Frequency	50 Hz
Rated Speed	800 rpm
Overloading Capacity	10%

F. TAIL RACE

Size	17.00 m (L) x 0.60 m (W)
Slope	1 in 400
Min. Tail Water Level	El 2100.00 m

G. Construction Period

18 months

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

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