

No.Ft. 48-3907/2019 (FCA),
H.P. Forest Department.

From: Nodal Officer-cum-APCCF (FCA),
O/o Pr.CCF (HoFF) HP Shimla-1.

To: The Regional Officer,
Integrated Regional Office,
Govt. of India, Ministry of Enviroment, Forests & Climate Change,
CGO Complex, Shivalik Khad, Longwood, Shimla,
Himachal Pradesh-171001.

Dated Shimla-1, the 11 0 JUN 2022

Subject: **Diversion of 0.56 ha. of forest land in favour of Bhup Raj, Bhojnagar Bazar, sunder nagar, Distt. Mandi, HP for the construction of Dhanwan Small HEP (1.00 MW), within the jurisdiction of Joginernagar Forest Division, Distt. Mandi, H.P. (Online Proposal No. FP/HP/HYD/39107/2019)**

Sir,


Kindly refer to your office letter No. FC/HPB/01/74/2021 dated 10.05.2022 on the subject cited above.

2 The pointwise reply of the observations as raised vide your above referred letter is submitted as below:-

1. The complete layout plan/digital map showing all the components as mentioned in KML file with distinct colours duly authenticated by undersigned is enclosed herewith and same has been uploaded online Part-I.
2. The user agency has intimated that NOC from Fishery Department is not required as per consent letter.
3. Revised muck management Plan has been prepared and enclosed herewith.
4. The necessary undertaking is enclosed herewith.
5. Copy of permission of road is enclosed herewith.
6. User agency has intimated that there is no any HEP is up stream/ down steam of the landscape of project.
7. Copy of DFO (Wildlife) Kullu showing the exact aerial distance from the boundary of proposed Eco-Sensitive Zone is enclosed herewith.
8. The TEC is enclosed herewith and IA is under process. The user agency has intimated that it will be submitted as soon as it is received from concerned authority.
9. The length of Transmission line upto inter connection point is (793.78 mtr + 299.15 mtr =1092.93 mtr) in which 793.78 mtr length is underground cable with 0.6 mtr width, 0.0476 hectare and 2.99.15 mtr overhead cable with 7.1 mtr width, 0.2124 mtr total 0.26 hectare land is proposed for transmission.

Encls: As above.

Yours faithfully,


Nodal Officer-cum-APCCF (FCA),
O/o Pr. CCF (HoFF), H.P.Shimla-1

MUCK MANAGEMENT PLAN FOR C/O SHP DHANWAN

ALL QUANTITY ARE IN CUBIC METERS.

SR. No	PROJECT COMPO.	GROSS QUANTITY MUCK GENERATE D	MUCK UTILIZE D	MUCK DUMPE D	DETAIL OF DUMPING SITE	KHASRA NO.	CAPACITY D/SITES	RE
1	WEIR SITE	750	340	410	1	1314/1295/2	410	
2	D/TANK	324	146	178	2	"	178	
3	FOREBAY	550	248	302	3	1314/1295/5	302	
4	PENSTOCK	380	171	209	4	"	209	
5	POWER HOUSE	450	202	248	5	1311/572/7	248	
6	SWITCH YARD	492	221	271	6	"	271	
	TOTAL	4784	2354	2485			2485	

NOTE: - THE TOTAL MUCK 4784 CUBIC METERS WILL BE GENERATED IN THE C/O SHP DHANWAN 1 MW, OUT OF THIS 2354 CUBIC METERS MUCK WILL BE UTILISED AND REMAINING 2485 CUBIC METERS WILL BE DUMPED IN SIX DUMPING SITES IN ABOVE MENTIONED KHASRA NOS.

FOR

SHP DHANWAN 1.0 MW

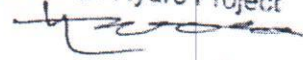
Full Title of Project: Diversion of 0.56 hect. forest land in P/O Bhus Raj,
152/9, Bhognagar Bazar, Sunder Nagar for the C/O
Dhanwan Small HEP C.I. 00 NWJ within Jurisdiction
of J/Nagar Ft Division, Distt Mandi (HP)
Online Report No FP/HP/HXD/39107/2019)

02.06.2022

UNDERTAKING

We, undertake that shall not require/request for any more Forest
Land for construction of access from Dhangyan to Power House.

For Dhanwan Hydro Project



Prop.

User Agency

No.RK/FRA/ 9510
Forest Department, Himachal Pradesh.

From:

Divisional Forest Officer,
Forest Division, Joginder Nagar,
Distt. Mandi, HP.

To:

The Range Forest Officer,
Tikkan Forest Range,
Tikkan, Distt. Mandi, HP.

Dated J/Nagar, the/ 26/02/2022

Subject:

Diversion of 0.55 hect of forest land for the c/o link road from Tikkar Gala to Dhangayan (km 0/00 to 0/700) under the Scheduled Tribes and Other Traditional Foret Dwellers (Recognition of Forest Rights) Act, 2006 under Section 3(2), within the jurisdiction of Tikkan Forest Range of Joginder Nagar Forest Division, Distt. Mandi, HP.

Memorandum;

In accordance with the permission/ final order/ directions of the Hon,ble Supreme Court of India issued on 09 and 14-12-2021 in I.A. No. 47044/2021, 68566/2021, 109098/2021 & 139401/2021 filed by the State of HP in the case titled as T.N. Godavarman Thirmulpad Vs UoI & Ors., on the subject cited above.

2. The necessary sanction/ approval for diversion of 0.55 hectare of forest land falls in the jurisdiction of revenue mohal Tikkar Khasra No. 982/1, 982/5, 540/1, 540/2, 983/1 and Muhal Dhangayan Khasra No. 917/1, 916/1, 916/3 status DPF and Charagah bila drakhtan for the construction of link road from Tikkar Gala to Dhangayan (km 0/00 to 0/700) is hereby accorded under section 3(2) of FRA, 2006, subject to the following conditions:

1. *The said land shall be handed over to the user agency under supervision of Gram Sabha after propoer demarcation and fixing of pacca points with its GPS Co-ordinates and possession receipt may be sent to this office.*

2. *If the activity for which the forest land has been diverted is not started within one year of handing over of the land to the user agency, the same shall be appropriated to the Forest Department.*

3. *No tree felling is allowed in present case.*

4. *No Muck will be thrown/ dumped into the Forest/ Government land other then muck dumping sites proposed herewith the proposal for such disposal in the diversion.*

5. *The user agency shall have to pay the cost of CA & NPV if any imposed by the higher authority at any time.*

6. *The legal status of land diverted shall remain un-changed.*

7. *The land transferred will be used for the same purpose for which it is diverted.*

8. *The user agency shall be responsible for any loss of flora and fauna in the surroundings and therefore shall take all possible measures.*

Cont-P/2

No./ C.I.11/ 1555 /
Forest Department H.P.

Dated Kullu, the/ 06 June, 2022/



From:- Divisional Forest Officer,
Wild Life Division, Kullu.

To: - Dhanwan Hydel Power Project,
Corp. Office, H.No. 73 Housing Board Colony.
Dhaundi, PO Nagchala, Teh. Balh, Distt. Mandi.
HP 175021

Subject:- Application for NOC (Wildlife) for SHEP Dhanwan SHEP (1.00 MW) in District Mandi.

Sir,

Please refer to your office letter No. Nil dated 03-06-2022, on the subject cited above.

2. In this connection, as per the field report of RO Wildlife Barot, the proposed site for the construction of Small Hydel Electric Project Dhanwan at Kangehar/ Uhl in District Mandi, HP does not fall within the boundary of Nargu Wild Life Sanctuary as well as its proposed Eco-Sensitive Zone. The aerial distance from nearest Nargu Wild Life Sanctuary & its Eco-Sensitive Zone is as under:-

Name of nearest Wild Life Sanctuary	Distance from the Boundary of Sanctuary.	Distance from the Boundary of proposed Eco-Sensitive Zones.
Nargu, Wild Life Sanctuary	5 Kms.	4 Kms.

This is for favour of information & necessary action please.

Yours faithfully,

For Dhanwan Hydro Project


User Agency


Divisional Forest Officer,
Wild Life Division, Kullu.

**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 Dhanwan SHEP (1.00 MW) within elevation range of El 1467.00 m to El 1360.00 m on Kangehar nallah, a tributary of Uhl River in Distt. Mandi, Himachal Pradesh allotted to "M/s Shivganga Hydel Power Project, House No. 73, Housing Board Colony, Daundhi, P.O. Nagchala, Tehsil Balh, Distt. Mandi- 175021 (HP)", at an estimated cost of Rs. 1082.00 lakh (Rupees One Thousand Eighty Two Lakh) 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) 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 Shivganga Hydel Power Project, House No. 73, Housing Board Colony, Daundhi, P.O. Nagchala, Tehsil Balh, Distt. Mandi- 175021 (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 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 **Annex-III** shall be obtained before execution/ 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 Dhanwan SHEP (1.00 MW) can be evacuated through solid tap on 11 kV Sudhar feeder (at village Bhatchar) emanating from 33/11 kV tikken sub-station subject to the following conditions:-
 1. The cost of 11 kV dedicated transmission line (from the power-house site to the solid tap) and the interconnection facilities shall be borne by the IPP.
 2. No deemed generation shall be claimed by the IPP in case of breakdown on 11 kV feeder or 33/11 kV Tikken Sub-station.
 3. HPSEBL shall have the right to avail shutdown on the sub-station or on the feeder as and when required to maintain the system.
 4. Dedicated 11 kV feeder from the power house site to solid tap point shall be operated and maintained by the IPP.
 5. Metering arrangement at interfacing point shall be at the cost of the IPP.
 6. Modalities for sharing of losses in "off Peak load hours" between interfacing point and 33/11 kV Tikken Substation shall have to be devised between HPSEBL and the IPP.
- 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 above mentioned evacuation arrangements shall be subject to the HPERC/CERC approval of "Comprehensive area wise plan for augmenting and establishing of transmission/sub-transmission system for evacuation of power from HEPs" which has already been submitted to HPERC. The Transmission/Distribution Licensee may however evolve alternate system(s) depending on the site conditions and subsequent developments with the approval of HPERC.
- xix) 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.
- 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 Developer 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 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.
- xxiv) 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.
- xxv) The authenticity of benchmark considered for carrying out survey as ensured and intimated by IPP to DoE shall be the sole responsibility of the IPP.
- xxvi) The proposed arrangement of laying Feeder / Power pipe and Penstock with length 1136 m and 192.00 m respectively 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.
- xxvii) LADC/LADF amount and activities shall be implemented as per HP Govt. Swaran Jayanti Energy Policy, 2021.
- xxviii) The additional 1% (one percent) free power from the project shall be provided and earmarked for a Local Area Development Fund(LADF) as per the provision stipulated in the HP Govt. Swaran Jayanti Energy Policy, 2021 and subsequent amendments thereof, if any.
- xxix) 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 24 months from the date of start of the construction work.


A. R. (TBC)

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/project authorities 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. Swaran Jayanti Energy Policy, 2021 and 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 project developer shall submit monthly hydrological and meteorological data observed at the project site and monthly progress reports on the prescribed format along with expenditure actually incurred, duly certified by statutory auditors shall be submitted to the DoE, GoHP till the Commercial Operation of the plant.
9. 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. M. A. W.
Chief Engineer,
Directorate of Energy, GoHP,
New Shimla- 171009(HP).

No. DoE/CE(Energy)/TC-Dhanwan/2022- 564-73

Dated: 21/04/2022

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. Mandi, Himachal Pradesh - 175002.
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 Shivganga Hydel Power Project, House No. 73, Housing Board Colony, Daundhi, P.O. Nagchala, Tehsil Balh, Distt. Mandi- 175021 (HP).

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

ANNEXURE-I

Dhanwan SHEP (1.00 MW) in Distt. Mandi of Himachal Pradesh allotted to "M/s Shivganga Hydel Power Project, House No. 73, Housing Board Colony, Daundhi, P.O. Nagchala, Tehsil Balh, Distt. Mandi- 175021 (HP)."

ABSTRACT OF COST ESTIMATE

Sr.No.	Description of work	Cost (Rs. in lakh)	
(a)			
i)	Civil works i/c other Misc. expenses	650.42	} Price level March, 2021
ii)	Electro Mechanical Work	319.93	
iii)	Transmission Works	20.40	
	Sub-total (a)	990.75	
(b)			
i)	Interest During Construction (IDC)	50.07	
ii)	Escalation	19.81	
iii)	Financial Charges	10.06	
	Sub-total (b)	79.94	
	Total (a+b)	1070.69	
(c)	LADC @ 1.0% of (a+b)	10.71	
	Grand Total (a+b+c)	1081.40	
	Say ₹	1082.00 Lakh	

(Rupees One Thousand Eighty Two Lakh Only)

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

AGE (T&C)

ANNEXURE-II

Dhanwan SHEP (1.00 MW) in Distt. Mandi of Himachal Pradesh allotted to "M/s Shivganga Hydel Power Project, House No. 73, Housing Board Colony, Daundhi, P.O. Nagchala, Tehsil Balh, Distt. Mandi- 175021 (HP)."

SALIENT FEATURES

I. LOCATION

State
District
Village
Stream/ Khad
Proposal

Himachal Pradesh
Mandi
Dhanwan
Kangehar Nallah/Uhl khad
Diversion Weir of Dhanwan SHEP at El 1467m and Surface Power House site on left bank of Kangehar nallah at El 1362.50 m with Mini. Tail Water Level El 1360.17m

Accessibility
By Road
By Rail
By Air

50 km from Mandi-Padhar-Balh-Dhanwan
Narrow Gauge Line at Joginder Nagar
110 km from Bhuntar Airport

Geographical Coordinates

- Weir
- Power House

Longitude
76°-56'-9.05"E
76°-55'-41.56" E

Latitude
31°-55'-1.76" N
31°-54'-35.98" N

SOI Topo sheet

53A/13

II. HYDROLOGY

Khad/River
Tributary
Catchment area at diversion site
Design discharge
Design flood

Kangehar Nallah/Uhl khad
Tributary of Beas Basin
22.20 Sq. km.

1.25cumecs
132.96cumecs

HFL

Diversion Weir
El 1470.00 m

Power House
El 1355.50 m

III. PROJECT COMPONENTS:- A. DIVERSION STRUCTURE/INTAKE

Type
Size

Depth
Design discharge

Crest level at weir
Bed Level

RCC Trench Type Weir
10.00 m (L) x 11.00 m (W)
having 1.30 m Trench width.
4.10 m depth at start and 5.50 m depth at end
1.25 cumecs plus flushing and overloading discharge
El 1466.72 m
El 1465.30 m

Bed Slope	1 in 14.29
Size of Intake	5.00m (L) x 2.30 m (W) x 2.00 m (H)
Top Level of Intake	1466.60 m

Water Conductor System (From Intake Tank to D-Tank)	
Type	Circular Pipe
Size	1.00 m ϕ , 6mm thickness
Length	55.00 m
Slope	1 in 250 m
Design discharge	1.25 cumecs plus flushing and overloading discharge
Velocity	2.28 m/sec
Bed level at end	1464.88 m
FSL	1465.85 m

B. DESILTING ARRANGEMENT

Type/Shape	RCC rectangular Hopper type
Size	25.00 m (L) x 4.00 m (W)
Depth	3.80 m (including freeboard)
Design Discharge	1.25 cumecs plus flushing and overloading discharge
Particle size to be removed	0.25 mm
Flow velocity	0.22 m/sec
FSL of De-silting tank	El \pm 1465.85 m
Dia of Flushing Pipe	800 mm ϕ
Type of Flushing Pipe	Circular MS Pipe

C. FEEDER/POWER PIPE (Desilting Tank to Forebay)

Type	Circular Pipe
Size	1.00m ϕ , 6 mm thickness
Length	1136.00 m
Slope	1 in 400 m
Design discharge	1.25 cumecs plus overloading discharge
Velocity	1.80 m/sec
FSL at end	1463.01 m
Bed Level	1462.02 m

D. FOREBAY TANK

Type/Shape	RCC Rectangular Tank
Size	12.00 m (L) x 8.00 m (W) x 6.00 m (D)
Design Discharge	i/c 1.10 m freeboard
Live Storage capacity	1.25 cumecs plus overloading discharge
Peaking time	172.80
Top Level	2 minutes
FSL	El 1464.11 m
MDDL	El 1463.01 m
Bed Level	El 1461.21 m
	El 1458.11 m

E. PENSTOCK

Type/Shape	Circular/Steel
Number /size of main penstock	One/ 700 mm ϕ
Length of main penstock	192.00 m
Plate Thickness	Varies from 8 mm to 10 mm

Velocity
Material of steel liner
Number of branches
Size of branch penstock
Length of branch penstock
Velocity of branch penstock

3.57 m/sec
ISI-2062 steel
2 No.
500 mm ϕ
10.00 m (each)
0.87 m/sec

F. POWER HOUSE

Type
Size
C/L of Jet
Installed Capacity
Gross Head
Net Head
Power House Crane

Surface Power House
20.00 m (L) x 12.00 m (W) x 10.00 m (D)
El 1362.50 m
2 x 500 kW
99.91 m
95.80 m
10/2 Tonne

TURBINE

Type of Turbine
Number
Rated capacity
Rated Speed

Horizontal Francis turbine
2 No.
500 kW each
600 rpm

GENERATOR

Type
Number
Rated capacity
Power Factor
Rated Voltage
Rated Frequency
Rated Speed
Overloading Capacity

Synchronous
2 No.
500 kW each
0.85 lag
3.3/11KV
50 Hz
600 rpm
10%

G. TAIL RACE

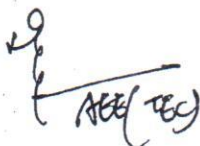
Type/Shape
Size
Length
Slope
Mini. Tail Water Level

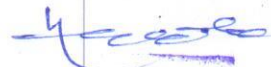
RCC Rectangular Channel
1.20 m (W) x 1.20 m (D)
40.00 m
1 in 300
El 1360.17 m

H. Construction Period

24 months

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





ANNEXURE-III

Dhanwan SHEP (1.00 MW) in Distt. Mandi of Himachal Pradesh allotted to "M/s Shivganga Hydel Power Project, House No. 73, Housing Board Colony, Daundhi, P.O. Nagchala, Tehsil Balh, Distt. Mandi- 175021 (HP)."

LIST STATUTORY AND ADMINISTRATIVE CLEARANCES REQUIRED

Sr. No.	ITEM	AGENCY	REMARKS
1.	WATER AVAILABILITY	1. State Govt. 2. CWC	Interaction with State Govt. Deptt. & CWC required. Relevant Irrigation Act of the State & Central Water Commission to be implemented.
2.	HPSEBL CLEARANCE	1. HPSEBL. 2. State Govt.	As per 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. MoEF & CC, GoI.	Coordination with State Forest Deptt./ Min. of Environment & Forest (MoEF & CC) regarding Forest (Conservation) Act, 1980.
5.	ENVIRONMENT & FOREST CLEARANCE	1. State Govt 2. MoEF & CC, GoI.	As per item (3) & (4) and Latest 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. MoEF & CC, GoI.	
8.	EQUIPMENT PROCUREMENT	Directorate General of Foreign Trade (DGFT)	As per Import & Export Acts.

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

ABG (TBE)