

## JOINT INSPECTION REPORT

### LAND REQUIRED FOR PROPOSED SAI-KOTHI -II HEP(16.5 MW) HPSEBL AT BAIRA NALLAH IN TESHIL CHURAH DISTRICT CHAMBA (H.P)

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Joint inspection of site for construction of proposed **Sai-Kothi -II HEP (16.5MW)** conducted on 10/3/2017 by the committee consisting of undermentioned officers of various departments. This is being constructed by HPSEBLtd. (State Govt. Undertaking). The project envisages generation of 16.5 MW of electricity by utilizing the water discharge of Baira Nallah in teshil Churah, district Chamba. The forest land is required for the construction of Sai- Kothi- II (16.5 MW) near Village Khakri, Teshil Churah , Distt. Chamba. ( H.P). The silt free water discharge from intake Cum Diversion Structure at the end of Tail Race tunnel of sai- Kothi-I HEP ( 15 MW) near village Shalli on right bank of Baira Nallah will be diverted to right bank through **3.56 Mtr. Diameter, 1775 mtr. long** feeder tunnel and crossing left bank by constructing pipe Aqueduct over Baira Nallah and further right bank through head race tunnel to Surge Shaft. The water discharge is conveyed through **3.56 mtr. diameter, 3760 mtr. long** head race tunnel to carry **24.75 Cums** design discharge to Surgeshaft  $\pm 8$  mtr. diameter, **70 mtr. deep** and a pressure shaft bifurcating near underground Power House at village Kharkri to generate 16.5 MW power. The tail Race Tunnel outlet will be located at the upstream of the confluence of joiner nallah with Baira Nallah. For the construction of its civil Structures & other Components and Erection of Plant & Machinery, operation and Maintenance of Power Housee, the approach road  $\pm 6.80$  Km. long will be required to be constructed for speed up the various work activities. The total forest Land **11.9813** hectare including **1.827** hectare for underground tunnel is involved for diversion (as per detail attached Annexure -A-) under the provisions of Forest Conservation Act, 1980 and Private land **0.3112** hectare is involved for construction of Sai- Kothi -II HEP (16.5 MW).



During the course of Joint inspection, the three alternatives proposals as presented on spot by the representatives of the HPSEBLtd.

#### **Alternative No.-I**

1. The alignment falls on the right bank of Baira nallah by diverting silt free water from tail race tunnel of Sai-Kothi HEP Stage-I (15MW), which is carried through head race Tunnel and under neath of Makhan Nallah. This alignment is not desirable. The total length of tunnel is about  $\pm 5.200$ Km, which is also more than the -II &III alternatives.
2. This alternative required more road length as compared to other alternatives- II & III, which is about  $\pm 8.0$  Km.
3. The forest land involvement is in the tune of 12.0 hectare and having 1150 number of trees are falling in this alignment.
4. A weak geology has been observed near Power house site and some reaches in head race tunnel.
5. The area of forest and trees coming under this alternative is more as compared to other alternatives - II & III.

#### **Alternative No.-II**

1. The alignment falls on the right & left bank of Baira nallah by diverting silt free water from tail race tunnel of Sai- Kothi HEP Stage-I (15MW), which is carried on right bank through feeder tunnel upto aqueduct then on left bank through head race Tunnel to Surge shaft & Power house proposed on right bank of Joiner Nallah near to village Khakari. The total length of tunnel is about  $\pm 4.405$  Km. which is less than the 1<sup>st</sup> alternative. It is the best alternative.
2. This alternative required less road length as compared to other alternatives I & III, which is about  $\pm 6.8$  Km.
3. The forest land involvement in this alternative is in the tune of 11.9813 hectare and having 878 number of trees are falling in this alignment.
4. The Geology observed along this alignment is more compatible as compared to other alternatives- I & III.
5. The location of underground Power house in this alternative is more compatible as per geologically point of view.



### **Alternative No.-III**

1. The alignment falls on the right & left bank of the Baira nallah by diverting silt free water from tail race tunnel of Sai-Kothi HEP Stage-I ( 15 MW ), which is carried through feeder tunnel to head race tunnel to proposed power house just below village Drasha. The total length of tunnel is about  $\pm 4.200$  Km.
2. This alternative required more road length as compared to other alternatives I & II, which is about  $\pm 7.8$  Km.
3. The forest land involvement in this alternative is almost near to other alternatives i.e in the tune of 12.1 hectare and having 945 number of trees are falling in this alignment.
4. A weak Geology and active land slide has been observed near the Power house site.
5. The area of forest and trees coming under this alternative is more as compared to alternative - II.

The Project will generate muck total volume of 133073 Cubic meter which having swelling 59883 Cum after applying 45 % swell factor becomes total volume 192956 cubic meter. Out of which 77183 cubic meter will be utilized locally in leveling behind Retaining & Breast walls , switch yard, road soaling, drains, filling wire crate etc. and the remaining 115773 cubic meter muck will required safe disposal for which four dumping sites have been identified. The capacity of these dumping sites has been calculated as 116168 cubic meter which will be sufficient for holding the quantity of muck to be disposed off.

The above joint committee examined the three alternatives marked in toposheet of Survey of india, scale 1:50000 (As per Annexure-B ) for which forest land required for the construction of Projects components, job facilities, dumping sites , Roads etc.

The following points were discussed by committee on the Alternative -II and it was observed that:-

- I. Barest Minimum forest Land is proposed to be used for Sai- Kothi-II ( 16.5MW) HEP Project Construction.

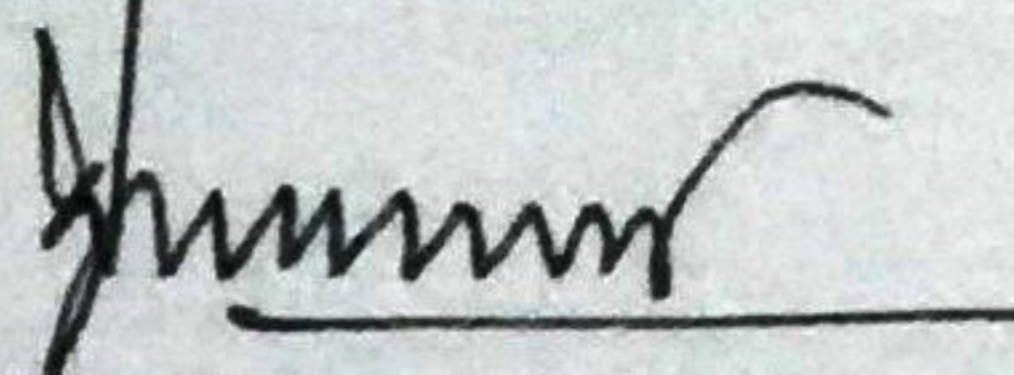


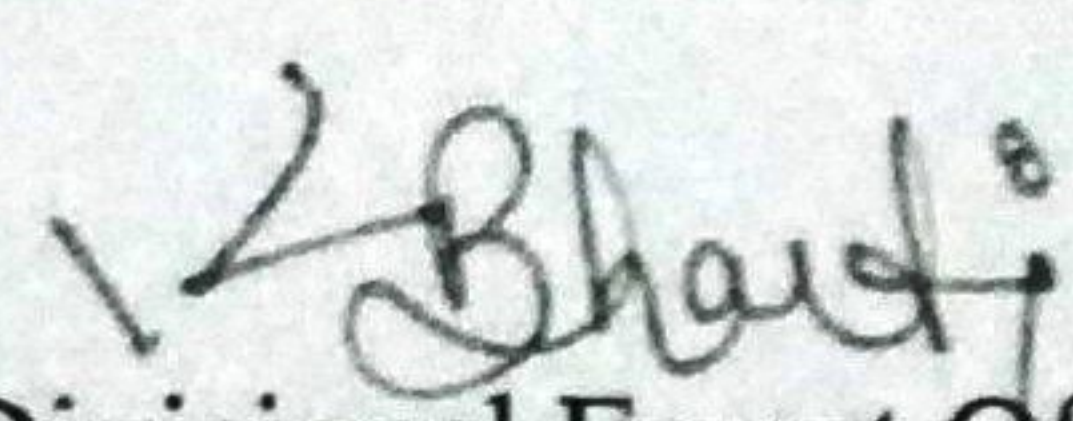
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- II. There are no archeological monuments or defense establishment's site.
  - III. There will be no danger to rare and endangered species of Flora & Fauna.
  - IV. There will not be any soil erosion.
  - V. No PWD road or IPH Scheme involved.


The committee is satisfied with the Alternative-II proposal as presented by Himachal Pradesh State Electricity Board Ltd. in view of minimum forest land use and trees felling.

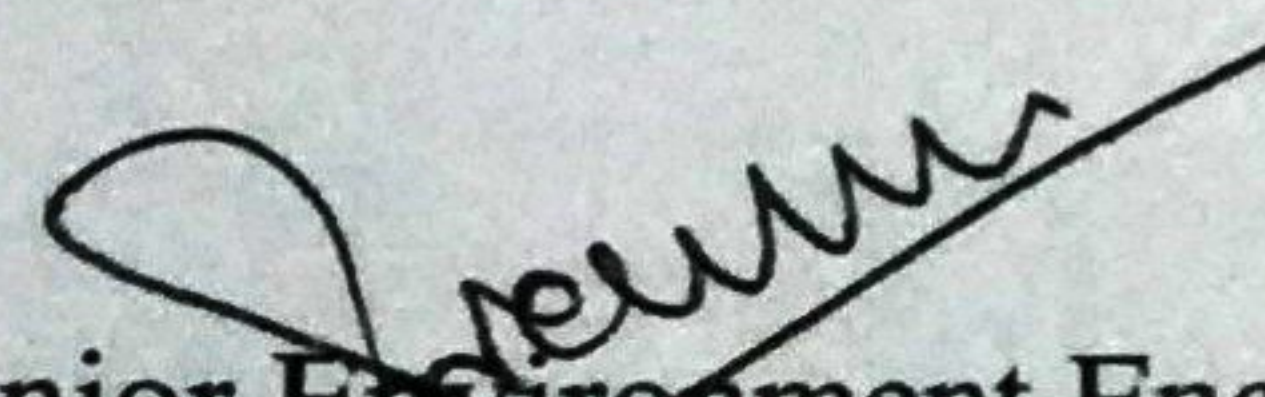
The joint inspection committee after examining all three alternative, therefore recommends alternative II for approval as per component- wise detail of total land given above and at the same time directs the HPSEBL not to use the Forest land before prior approval of central Govt. under Forest (Conservation) Act, 1980.

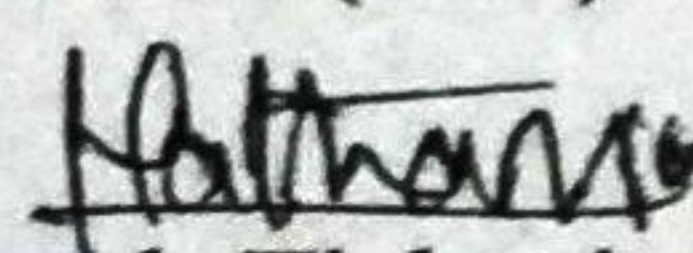
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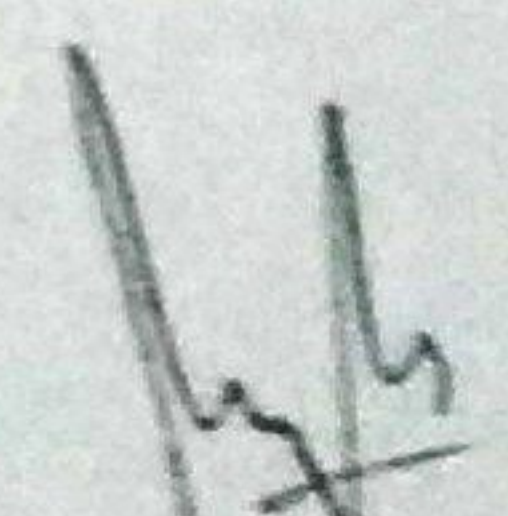
  
Sub Divisional Officers (Civil),  
Churah, Distt Chamba. (H.P)

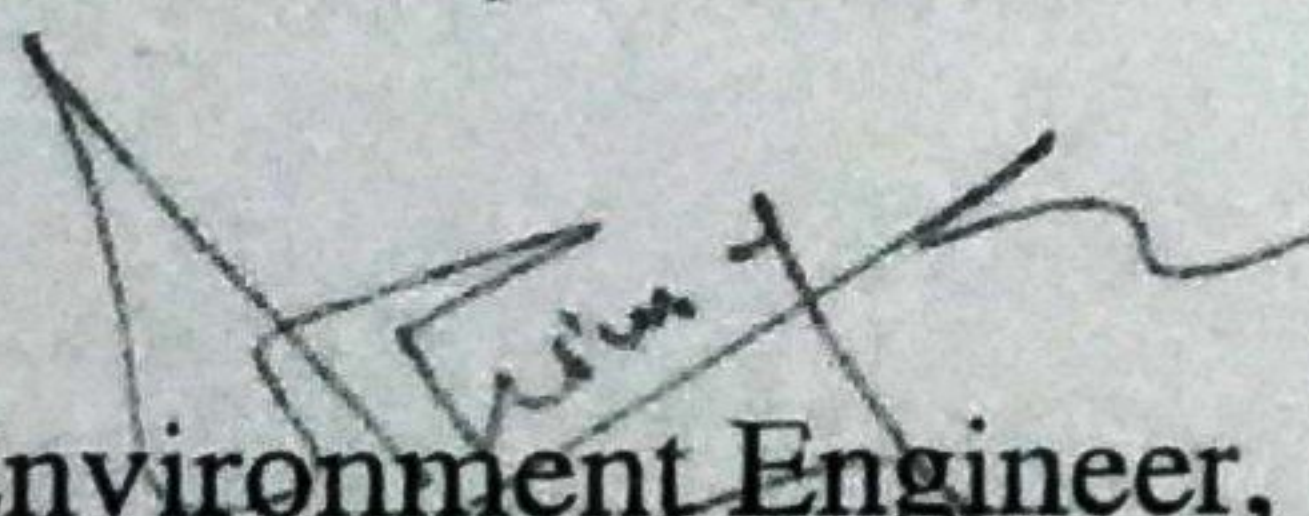
  
Divisional Forest Officer,  
Churah Forest Division,  
Chamba (H.P)

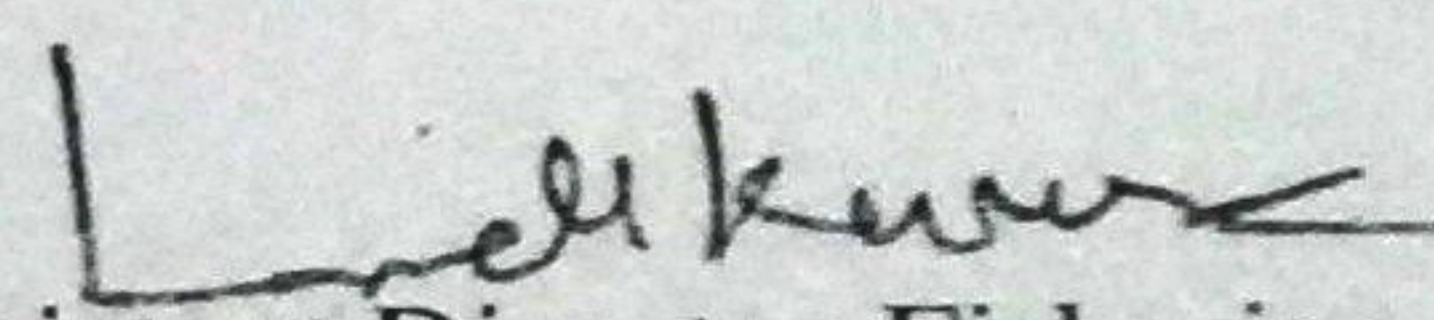
  
Sr. Executive Engineer,  
Hydel Investigation Division,  
HPSEBL, Chamba (H.P)

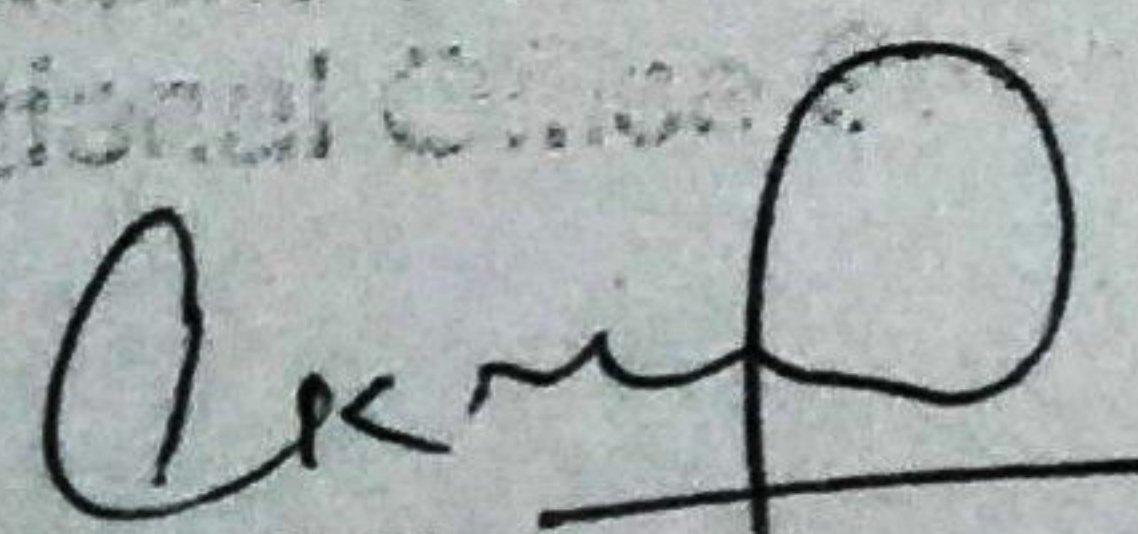
  
Junior Environment Engineer,  
HPSPCB, Chamba.

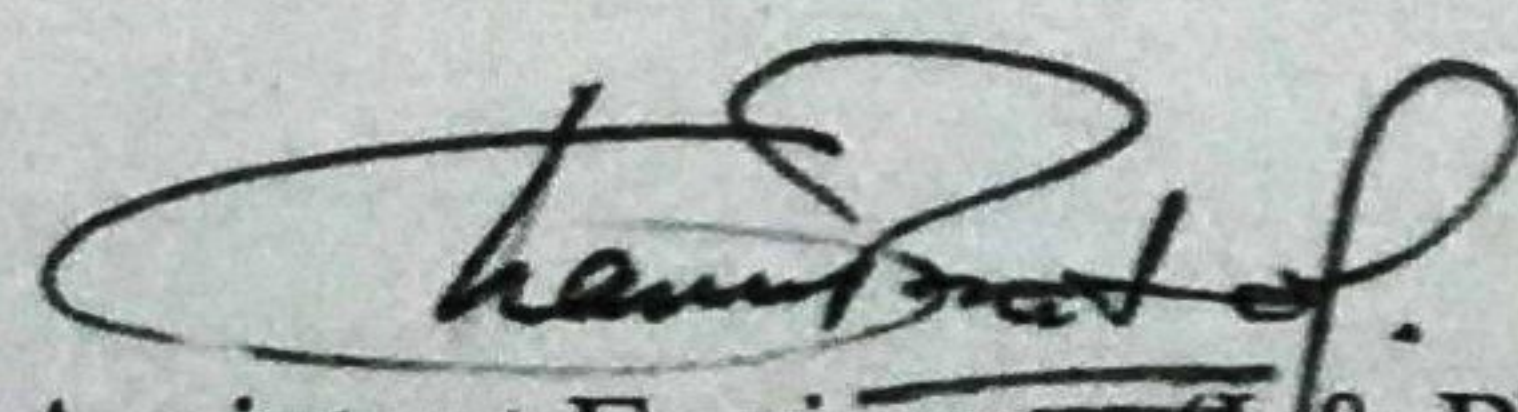
  
Guard, Fisheries Department,  
Distt Chamba (H.P).

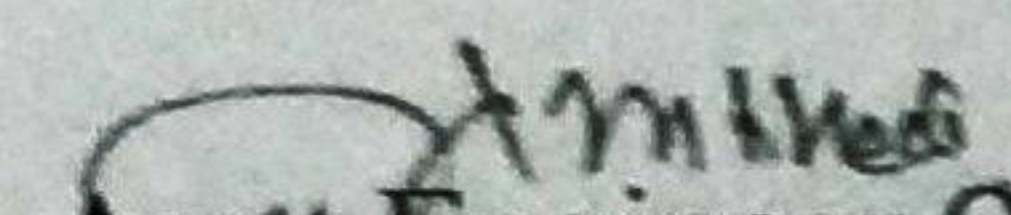
  
Tehsildar,  
Churah, Chamba (H.P)

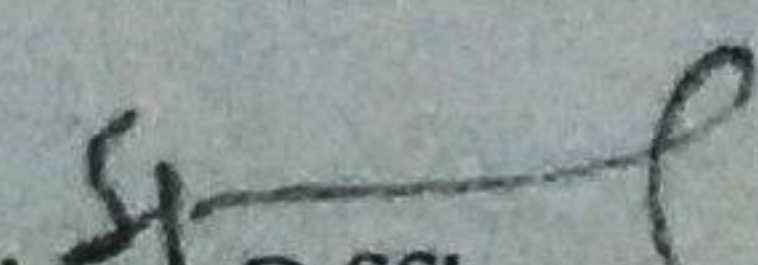
  
Environment Engineer,  
HPSPCB, Chamba.

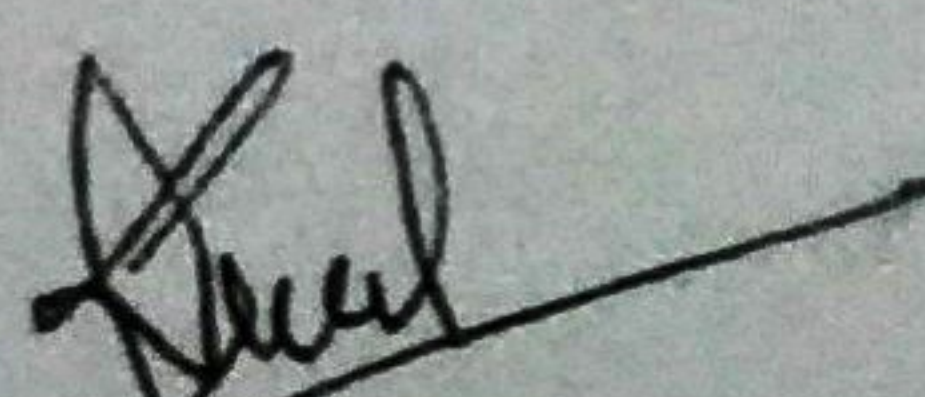
  
Assistant Director Fisheries,  
Chamba at Sultanpura  
Distt Chamba (H.P).

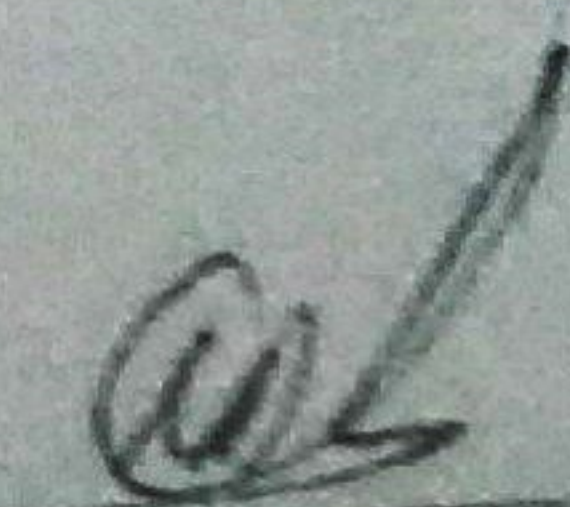
  
Asstt. Mining Inspector,  
Department of Industries  
Chamba, Distt. Chamba (H.P).

  
Assistant Engineer, (I & PH),  
I & PH Sub-Division,  
Tissa, Chamba (H.P).

  
Asstt Engineer Officer (PWD)  
Tissa Sub Division, HPPWD  
Tissa, Distt. Chamba (H.P).

  
Mining Officer,  
Chamba, Distt. Chamba (H.P)

  
J.E. TISSA  
HPSEBL

  
Range Forest Office  
Tissa