

ANNEXURE 11

RHO HYDRO ELECTRIC PROJECT (93MW)

PROJECT SUMMARY

Government of India has launched the "50000MW Hydro- Electric Initiative" and accordingly the Government of Arunachal Pradesh has earmarked certain Hydro Electric Projects for allocation to private developers for the development of hydro power in the state. **SEW Energy Ltd.**, (having its registered office at 6-3-871, Snehalatha, Green lands Road, Begumpet, Hyderabad, -500016), has identified **Rho Hydro Electric Project (60MW)**, in Tawang District for development, on Build, Own, and Operate and Transfer (BOOT) basis and entered in to a Memorandum of Agreement (MoA), with Government of Arunachal Pradesh on 02-03-2009. Copy enclosed as **Annexure 12**. Subsequently, the Power Potential Chapter of the DPR has been furnished to the CEA, and based on the water availability, the CEA has approved a revised installed capacity of **(93MW)** for the project, vide letter No 2/ARP/38/CEA/2011-PAC/5058-59 dated 17-9-2012. Copy enclosed as **Annexure-12A**. The Executive Summary of the project is enclosed as **Annexure 12 B**.

As per the MOA, a Special Purpose Vehicle (SPV) for the implementation of the project by name "**SEW RHO POWER CORPORATION LTD**" has been incorporated and Copy of Incorporation Certificate is enclosed as **Annexure 13**.

Required permission for conducting survey & investigations was issued by the Department of Environment and Forest, Government of Arunachal Pradesh vide letter No: FOR/256/CONS/2009/4188-89 DT2-3-2010. Copy enclosed as **Annexure 14**.

Rho Hydro Electric Project (93MW),

Rho H. E. Project is proposed to be developed as a run-of-the-river scheme on River Tawang Chu, between elevations 2240m and 2100 m, in Jang subdivision under Social Forestry Range Jang and Social Forestry Division Tawang in Tawang District. The project does not envisage major storage of water at the proposed location. The gross storage capacity is only 0.251 MCM at FRL of 2240m. The total catchment area up to diversion site is 2893 Sq.km.

Project Location

The barrage is proposed in Tawang Chuat about 580m upstream of Muruga Bridge (Latitude 27° 36' 51.34" N and Longitude 92° 00' 8.78" E) and the Power House is proposed at about 1.70 km downstream of the proposed diversion structure, (Latitude 27° 36' 20.26" N, Longitude 91° 59' 17.81" E) on the right bank of Tawang Chu. The project is located in the limits of Rho, Jangda and Yuthembu villages under Jang sub division in Tawang District. The entire land on either side of the river is classified as Unclassified State Forest (USF). Justification for proposing the project in forest land is enclosed as **Annexure 6**. Details of alternate sites considered and selection of present location are explained in **Annexure 15**. Map showing the alternatives considered is enclosed as **Annexure 15A**.

Component Structures of the project

A barrage 26m high and 155.0m long is proposed, across Tawang Chu and the water is proposed to be diverted through a concrete lined Head Race Tunnel of length 1552.06m and dia 6.0, followed by a surge shaft 16m dia and three Pressure shafts of dia 5.1, 4.1 & 2.9 m and lengths of 135.41m, 2408m and 245.02m leading to an underground power house of size 21 x 95 x 38.15m, to be located on the right bank of Tawang Chu. The salient features of the project, is enclosed as **Annexure-16**. The project lay out map is enclosed as **Annexure 16A**.

Power Potential

The Project with an installed capacity **93 MW** is estimated to generate an annual energy of **493.97 GWh** in a 90% dependable year with a machine availability of 95%. The power generated from the project is proposed to be evacuated through Tawang II pooling station proposed to be constructed by PGCIL.

Estimated Cost of the project

The total estimated cost of the project is Rs.1160.75 Crores including Rs.203.03 Crore towards escalation and 174.31 Crores for IDC based on July, 2013 price level. The levelised tariff comes to Rs. 5.19 /kWh. The detailed Cost Benefit analysis is enclosed as **Annexure- 7**.

Back ground of the Proposal

The proposal for the Diversion of **37.70 ha** of Forest Land required for Rho HEP (93MW), being developed by SEW Rho Power Corporation Ltd., was uploaded in the web site with project Proposal No. **FP/AR/HYD/17230/2015**. But, the name of the User Agency was inadvertently

considered as SEW Mago Chu Power Corporation Ltd. As per the MOA, all the sanctions are to be obtained in the name of the Special purpose vehicle only i.e. SEW Rho Power Corporation Ltd.

Further, due to the inclusion of the areas of the existing RWD road, PWD Road, nallah crossings (within the plots), and small portions of adjoining areas etc., the area proposed to be diverted has been increased to **48.24 ha**, as against **37.70 ha** proposed earlier. In the circumstances, fresh proposal for diversion of forest land is being submitted in the name of the user agency, SEW RHO POWER CORPORATION LTD. **There are no changes in the locations of component structures or locations of areas proposed for different purposes earlier.**

Revised Land Requirement of the project.

The requirement of land for various purposes/components of Rho HEProject is as follows;

A. Surface Forest Land

Land is required for the proposed surface structures / components of the Project like Labour colony, Reservoir Submergence area, Head works, intake, Facility areas , Quarry areas , Muck dump yards , Stack yards, Magazine, Colony areas, Approach roads, Portal of SFT, Portals of Adits etc. The total requirement of surface forest land for the above purposes comes to **30.21 ha**.

B. Notional Area for Underground Structures

Notional Land is proposed for the proposed underground structures like Adits to various underground structures, Desanding Chambers, Feeder tunnels, Silt Flushing Tunnel, Head Race Tunnel, Power house, Pressure Shaft, Penstock, Main Access Tunnel, TRT, etc. The total notional area required for the underground structures comes to **14.17 ha**. Thus the total bare minimum land required for the project is as follows;

Surface area	30.21 ha
Notional area for underground structures	14.17 ha
River	3.86ha
Total	48.24ha

The purpose wise breakup of total requirement of land is enclosed as **Annexure 2**. The map of the forest area required for diversion showing the boundary of the adjoining forest land, to a scale of **1:50,000**, is enclosed as **Annexure 4**. Also the map indicating the land identified for various purposes/ component structures is enclosed as **Annexure 5**.

Environmental Clearance

Required clearance for the Preconstruction activities along with Terms of Reference (TOR) for preparation of EIA/EMP report was accorded by MoEF. Subsequently, the EIA/EMP report was prepared. Meanwhile, the Validity of the TOR has been expired and arrangements are being made to obtain fresh TOR. Copies of the CAT Plan and Muck Disposal Plan as provided in the draft EIA/EMP Report are enclosed as Annexure 10 and Annexure 17 respectively. In the case of CAT Plan and Muck Disposal Plan, the Provisions/Recommendations in the final EIA/EMP Report, to be approved by MoEF&CC, shall be implemented during the execution of the project and necessary undertakings are enclosed. Further, Rho H E Project has been recommended for Implementation in the report of NEHU, on the Cumulative Impact Assessment and Carrying Capacity Study of Tawang River Basin approved by MoEF&CC.

Employment likely to be generated.

At present, most of the local population sustain on agriculture and allied activities. There are no major industries or other means of occupation in this area. The project will open a large number of job opportunities to the local population both during construction and operation phases.

As per the MoA, preference shall be given to the local people and the following criteria will be followed, subject to the conditions that the incumbents fulfilling the requirements of qualification for the positions.

- Managerial/professional post: 25%
- Ministerial/clerical post: 50%
- Skilled jobs: 25%
- Unskilled jobs: 75%


During the construction period of 42 months a total of about 52500 man days will be created, including staff and labour, at an average of about 500 people per day assuming 25 working days per month. During project operation period of 40 years allocated as per MOA, about 80 people (including staff and labour) are required on a regular basis.

Present stage of the project

All the investigations, except drifting, have been completed and the Detailed Project Report is under appraisal in CWC/CEA/GSI at the Pre Consultation stage. DPR will be submitted to CEA after clearance at Pre consultation stage.

Undertakings

All necessary undertakings including those to bear the cost of Compensatory Afforestation, Cost of NPV, Cost of Forest Produces and that the construction activities will not be started before Final Forest Clearance etc. are also enclosed. The details of all the Undertakings/Certificates /Documents furnished are shown in **Annexure A.**

Signature:**Name:**

Jayaprakash N.,

Designation: Business Associate.

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