FORM – 'A'

Form for seeking prior approval under section 2 of the proposals by the State Governments and other authorities

PART -1

1. Project Details

1.1 Short Narrative of the proposal and projects/scheme for which the forest land is required.

INTRODUCTION

North East region is very rich in hydropower potential due to excess rainfall in that area. The hydropower potential of NE states has been estimated at 58971 MW out of which 1158MW amounting to 1.98% has been utilized so far.

M/s. Srikar Energy Pvt. Ltd. has signed a Memorandum of Understanding with Government of Arunachal Pradesh on 18th July 2013 for development of Nyikgong Small Hydro Power Project on Nyikgong River in the Upper Siang District. Developer after allotment got the project area surveyed and measuring discharge since from last 3 years.

For the development of this project M/s. Srikar Energy Pvt. Ltd. has engaged the services of M/s Aarvee Associates Architects Engineering Pvt Ltd for preparation of Detailed Project Report. Nyikgong SHP is located in Upper Siang District of Arunachal Pradesh at Weir latitude 28° 45'4.48" N and longitude 94° 45'28.36" E on Nyikgong River. The project envisages utilization of water of Nyikgong River, a tributary of Siang River, which is, in turn, a tributary of Brahmaputra River. The barrage site is located 07 kms village Nyikgong, which is nearly 80 Km from Yingkiong District Head Quarter and 40 Kms from Tuting Town. Site is around 430 Kms from Itanagar. Tuting is the nearest towns from the project site.

On completion, Nyikgong SHP will provide 13 MW of rated power with design generation of 50.66 GWh of electricity in a 95% dependable year. The project will provide benefits of free power of Arunachal Pradesh as per terms and conditions of the MoA. The development of the project will enhance the quality of life of the people living in and around the project by the way of development of roads & communication, availability of reliable, dependable, uninterrupted power for development of small / medium industries, employment generation, development of tourism etc.

1.2 Map showing the required forest land, boundary of adjoining forest on a 1:50000 scale map.

Map showing the required forest land is attached as drawing of land required for Infrastructure works

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1.2 Cost of the Project

The total estimated basis cost of the project is Rs.14672.53 Lakhs at June 2015 price level works out as indicated in the following table as per AHEC approved. (All in Lakhs)

Total cost of the Project

Sr.No.	DESCRIPTION	AMOUNT (INR Crores)
1	Hard Cost of Construction	
	Civil Works (including Hydro-Mechanical Works)	7322.37
	Electro Mechanical Works	5791.19
	Total Hard Cost of Construction	13113.56
2	Internet During Construction	1558.97
	Total Completed Project Cost	14672.53
3	Estimated Cost per MW Installed Capacity	11.3

1.4 Justification for locating the project in forest area.

Nyikgong Hydroelectric Power Project comes under the 'run-of-river' scheme that relies on the strength of the river's flow to drive turbines. To provide significant amounts of electricity in this way requires a fast-flowing river, usually found in steep terrain or where a large stream is confined in a narrow bed. The various infrastructure facilities like Intake chamber, Power channel, Delisting basin, Forebay, Deselting Chamber, Feeder Channel, and most important Power house area, Submerge and Muck Disposal to be located in the proposed area.

1.5 Cost Benefit Analysis

The cost of generating hydroelectric power lies almost entirely in the construction of the barrage and power plant. Once in place, its costs are largely limited to equipment maintenance, with no further costs for fuel and transportation so operating expenses for hydroelectric plants are significantly lower than those for other conventional power plants. As long as there is sufficient water to run the turbines, electricity can be produced very cheaply.

The people of the state of Arunachal Pradesh will benefit as a whole from the Project, because royalty of 10 percent of the total electricity generated from the project will be passed on to the Government of Arunachal Pradesh. In addition 1 percent of the electricity generated will be passed on to the Government of Arunachal Pradesh for Local Area Development.

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1.6 Employment Likely to be generated

Hydroelectric Power Plant will bring jobs as well as electricity to the native village and other areas of the state.

The functioning of the power plant, maintenance of equipment, operation and maintenance of other infrastructure facilities will requires a number of civil, mechanical, electrical, instrumentation and hydro engineers, operators, supervisors, techniques, dispensary staff and other official staff as well as manual labor to be employed. This will boost the employment opportunity to the residents of the state and country.

Hydro projects are a boon to the society and the population at and around the projects. With enhanced employed opportunities, increased earnings, enriched life style and improved standard of living,The people in these localities will experience an economic and social up liftment.

2. Purpose wise break-up of the total land required:

Table 2: Land Requirement

ACQUISITION OF LAND				
S,No.	**Items**	**Type of Land**	**Area Required (in sq. mt)**	**Area Required (in Ha)**
1	Land Required for Weir or Intake	Govt. Land/ To be identified	6500	0.65
2	Land required for Power Channel (Including approach road to Intake)	Govt. Land/ To be identified	47200	4.72
3	Land required for Reservoir or Submerge	Private Land/ To be identified	17300	1.73
4	Land required for Feeder Channel	Private Land/ To be identified	2500	0.25
5	Land required for Disilting Chamber	Community Land/To be identified	1500	0.15
6	Land required for Switch Yard	To be identified / Private Land	1600	0.16
7.	Land required for Forebay	To be identified / Private Land	1200	0.12
8.	Land required for Penstock	To be indentified Private Land	1200	0.12
9	Land required for Camps and Buildings	To be indentified/Private Land	7500	0.75
10	Land required for Muck dumping site	To be indentified/Private Land	20000	2.0
11	Land required for Approach road to Power House Site	To be indentified /Community land	8000	0.80
12	Land required for Power House	To be identified/ Community Land	2700	0.27
13	Land required for tail race channel	To be indentified /Community Land	1800	0.18
Total Land Required			119000	11.90 Ha

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3. **Details of displacement of people due to the project, if any:**

Nyikgong Hydroelectric Project is a run of the river scheme proposed on Nyikgong River. There will no displacement / rehabilitation of people in the project.

(i)	Number of families	NIL
(ii)	Number of Scheduled Castes / Scheduled Tribe families	NIL
(iii)	Rehabilitation plan, (to be enclosed)	NA

4. **Whether clearance under Environment (Protection) Act, 1986 required?**

No – Nyikgong Hydroelectric Project is a 13 MW Project classified under Small Hydro Project scheme and clearance under the ACT is not required.

5. **Undertaking to bear the cost of rising and maintenance of compensatory afforestation and/or penal compensatory afforestation as well as cost for protection and regeneration of safety zone etc. as per the scheme prepared by the state government**
(Undertaking enclosed)

6. **Details of certificates / documents enclosed as required under the instructions.**

Enclosed.

For Srikar Energy Limited

Chairman & Managing Director

Date:

Place:

Director
M/s. Srikar Energy Pvt Ltd

State serial No. of Proposal _____
(To be filled up by the Nodal Officer with date of receipt)

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Nyikgong Hydro Electric Project

Cost Benefit Analysis

SL .N	PARAMETER	HYDEL PROJECT
1.	Loss of Value of timber, fuel wood and minor forest product of annual basis, including loss of man-hours of people who derived livelihood & wage from the harvest of these commodities.	Proposed Forest Land for Diversion is 11.84 Ha. Based on terrestrial Ecological survey, total number of trees likely to be affected shall be calculated along with their classification & total loss shall be worked after survey & shall be submitted accordingly. However, it is assured that the removals of the forest produce/felling of trees / poles would be minimum only and where it is very much required.
2.	Loss of Animal husbandry productivity inclusive of loss or fodder	NIL However, Afforestation and other conservation measures would be taken up.
3.	Cost of human resettlement	NIL There is no displacement or any out see involved in the project & hence cost of resettlement is not applicable.
4.	Loss of Public facilities & administration infrastructures of forest land or which would require forest land if facilities were diverted due to the project.	NIL Loss of any facility or existing infrastructures in the project land is NIL.
5.	Environmental Losses (Soil erosion, wild life, habitant, affect on hydrological cycle, microclimate upsetting of ecological balance)	Losses: Although forest cover is not having the same density over the entire area of 11.90 Ha. Density value of 0.40 for entire land is assumed in order to have a liberal estimation of the cost towards environmental losses The environmental value of 11.90Ha of forest (Density 0.4) at the rate of Rs.9.39 Lakhs per Ha (Density 0.40) = Rs. 110.67 Lakhs = Rs. 1.10 Crores. Benefits : (Income – Project Cost) Income = Annual energy generation (Million Units) x Rate per Unit energy x 50 yrs. = (Rs. in Millions) 50.66x 5.10x 50 = Rs.1292 Crores Project Cost = Rs. 146.72 Crores. Benefits = Rs.1292 Crs – Rs.146.72 crs = Rs.12771 Crs. Therefore, benefit Cost Ratio = Rs.12771 Crs/Rs.146.72 Crs = 8.7>1.
6.	Suffering to Oustees	NIL Loss of house / habitat /structure is NIL, hence not applicable.

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M/s. Srikar Energy Private Limited

Nyikgong Hydro Electric Project

Dist: Upper Siang, Arunachal Pradesh

Parameter for Evaluation of benefit, notwithstanding with Loss of Forests

SL.N	Parameter	Hydel Project
1	Increase in productivity attributed to the specific project	Nyikgong H.E.P. would annually generate about 50.66Million units (MU) of hydro power. Total generation 50.66 MU per yr x 35 yrs = 1773MU. Power growth=1773 MU x Rs.5.10/Unit=9042 (Rs.9042 in Millions) i.e. Rs.90 Crs. would be generated over a period of 35 Yrs. and hence there would be direct benefit to the state and nation.
2	Benefits of economy	The State Govt. would be get free power @ 10% per year of power generated from this during the entire operation period of 50 yrs under M/s. Srikar Energy Pvt. Ltd. The State Govt. will have first preference to purchase power that is generated from this project. In addition to above. M/s. Srikar Energy Pvt. Ltd. would also contribute 1 paisa per unit of power sold for Local area development fund during 50 yrs. Thus total free energy revenue to the Arunachal Pradesh in operation phase of 35 years will be to the tune of 4.22 MU per annum or about Rs.21 Cores per annum. After operation of 50 years by M/s. Srikar Energy Pvt. Ltd. the project will be surrendered back (in running condition) to the State Govt. at free of cost. With the commissioning of the project. Power scenario of the state will be considerably improved which will attract entrepreneurs / industrialists to set up various industries and production units in the state. Thus, Commissioning of this project is bound to boost the overall economy of the state in particular and the nation in general.
3.	Number of population benefited	Nyikgong village which will be directly benefited by the project in addition, people residing in Upper Siang district and entire population of the state i.e. about 10.9 lakh will also reap the indirect as well as overall benefit of the project,
4	Employment potential	Construction phase of the project will last for 2.5 years and during this period a large force of skilled & unskilled manpower will be engaged. During the peak working season about 100 nos. of skilled & unskilled manpower will be engaged. Besides above, the local people will get opportunity to carry out contract works subject to their capability / expertise.
5.	Cost of acquisition facility on non-forest land wherever feasible	Not applicable

SL.N	Parameter	Hydel Project
6	Loss of (a) Agriculture & (b) Animal Husbandry production due to diversion of forest land	a) Loss of Agriculture = NIL b) Loss of Animal Husbandry production = NIL
7.	Cost of rehabilitating the displaced persons as different from compensatory amounts given for displacement	Not applicable There is no displacement due to the diversion of the land for the project purpose and as such there is no resettlement issue related project. Various welfare measures would be taken upon the project Area under local Area Development Plan in due course.
8.	Cost of supply of free fuel wood to workers residing in or near forest area during period of construction	Wood will not be used by the labors and the workers. Supply of kerosene, LPG and solar equipments will be made available free of cost/ subsidized rate. However a provision of Rs. 10 Lakh is provided.

LAND REQUIREMANT MAP DETAILS

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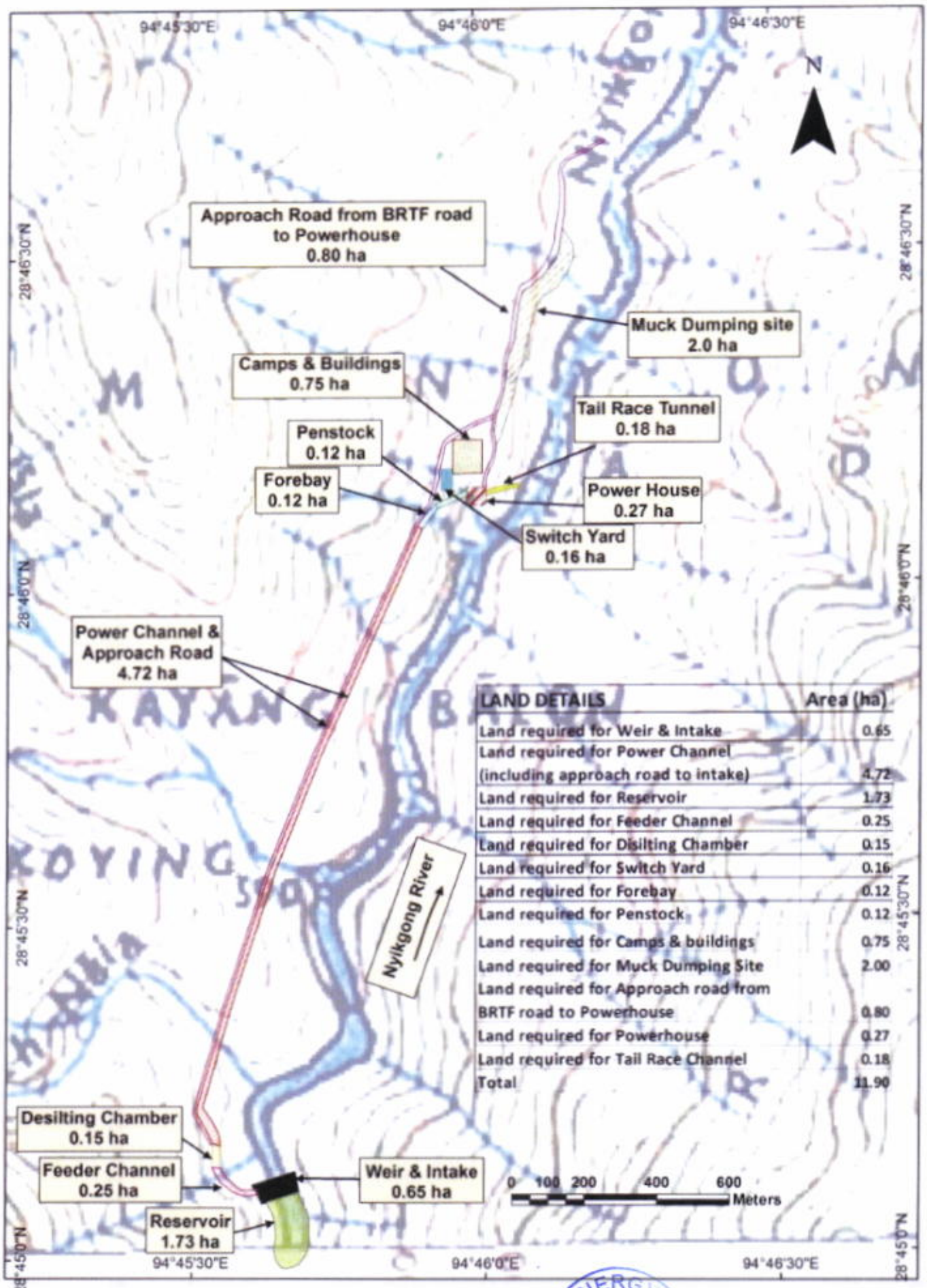

LAND DETAILS	Area (ha)
Land required for Weir & Intake	0.65
Land required for Power Channel (including approach road to intake)	4.72
Land required for Reservoir	1.73
Land required for Feeder Channel	0.25
Land required for Disilting Chamber	0.15
Land required for Switch Yard	0.16
Land required for Forebay	0.12
Land required for Penstock	0.12
Land required for Camps & buildings	0.75
Land required for Muck Dumping Site	2.00
Land required for Approach road from BRTF road to Powerhouse	0.80
Land required for Powerhouse	0.27
Land required for Tail Race Channel	0.18
Total	11.90

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