F. No. 6-79/2011.WL
Government of India
Ministry of Environment and Forests
(Wildlife Division)

Room No.514
Paryavaran Bhawan, CGO Complex,
Lodhi Road,New Delhi 110003

Dated 11.02.2012

OFFICE MEMORANDUM

Subject: Demwe Lower Hydroelectric Project: Consideration in Standing Committee of NBWL

The State Government of Arunachal Pradesh has forwarded a proposal of construction of a hydro-electric project with a dam on Lohit River in Lohit District in the State for consideration of the Standing Committee of National Board for Wildlife (NBWL) in accordance with relevant orders of the Supreme Court, as the project site falls within 10 km distance from the boundary of the Kamlang Wildlife Sanctuary (KWS). State Board for Wildlife has recommended the project for clearance.

2. Proposed project is a run of the river project and envisages a dam on the river with a dam toe power house at the base for use of the channelized water and subsequent release into the same river. The proposed site falls on the south west of the Kamlong Wildlife Sanctuary (KWS) of the State, at an aerial distance of 8.5 to 9.3 km from the nearest point of the sanctuary. The resultant water-spread will be less than 1 km away in north west of the KWS border. The forest area for submergence involved is 490.53 ha. Rest of the forests for diversion include 1415.92 ha (1408.30 ha for surface use and 7.62 ha for underground use) which was considered for forest clearance (Ref 8-7/2010-FC) and was recommended on 20.05.2010 by the Forest Advisory Committee with the condition that no clearance to any other HEP on Lohit river would be considered without a study of cumulative impact.

3. Initially the project was conceived as a single stage development project for 3000 MW with Full Reservoir Level at 490 m, causing submergence of parts of the KWS. However, in present proposal the level has been brought down to 424.8 m in order to avoid submergence of any part of KWS. The resultant capacity is now 1750 MW, corresponding to a saving of 230 lakh litres of diesel annually. It is projected to mitigate about 50 m tonnes of CO_2 annually (equal number of CERs in CDM terms) by providing carbon free energy of about 6322 to 9592 million units annually. The area involved lies outside the KWS. Water spread area extends close to the sanctuary. The water spread area is proposed to be managed as a protected area. No loss of human homesteads is involved during or after implementation of the project.

4. The proposal was considered in the 23rd Meeting of Standing Committee held on 14th October 2011. A team of Dr Asad Rahmani, Member, Standing Committee and Shri Pratap Singh, Chief Wildlife Warden, Arunachal Pradesh was entrusted with the task of undertaking a site visit to make a first-hand assessment of the possible impacts on wildlife in the project area as well as the area downstream of the project likely to be impacted due to implementation of the project and submit a report on the feasibility of the project. Separate reports submitted by both the members were discussed in the 24th

Meeting of the Standing Committee held on 13th December 2011. Non-official Members supported Dr Rahamani's report rejecting the proposal, whereas the Arunachal Pradesh Government representatives supported the proposal and gave counter arguments against each and every point highlighted in Dr Rahamani's report. Both the sides extensively expressed views for and against the project.

5. The spirit of the clearance system basically demands evaluation of trade-offs for balancing the developmental needs with environmental sustainability, examination of scope of mitigation and capacity of the ecosystems to withstand the impact. The project, therefore, needs to be considered in light of this overarching principle. In such circumstances, the trade-offs for this green power project and ecological impacts are to be judged carefully, and thereafter a view needs to be taken in the Ministry accordingly. To holistically consider the case, several inputs received from the non-official Members, scientific organisations and Government of Arunachal Pradesh have also been primarily considered in this regard.

6. The location of the dam is a transition zone from a hilly landscape to a flat one a little further downstream, and accordingly the flow of the river course also changes from a fast high gradient to a flat meandering nature. The span of the river course widens downstream, further widening as the three rivers Siang, Dibang and Lohit converge. Thus, ecologically the habitat structure changes from hilly gradient above the dam site to flat and open riparian downstream side. The river course in the hilly terrain continues upstream while that in the lower altitudes with gentle gradient continues downstream for 105 km before it reaches Dibru-Saikhowa National Park and continues further downstream.

7. In the report of Dr A. Rahamani, lack of data and the need for further studies has been highlighted. The main concerns raised by the non-official Members of the Standing Committee and also Dr Rahamani about the dam, arise from the diurnal fluctuations of water flow from the dam during the peaking operations, ranging between 70-1,729 cumecs, which is projected to cause corresponding variations in water level downstream, up to Dibru-Saikhowa National Park, 105 km downstream. The impacts of about 0.25 m fluctuations in the water level, projected as not serious in the WAPCOS study have been challenged as detrimental for the chapori grassland ecosystems including habitats of the *Bengal Florican* and Asiatic Wild Buffalo by the non-official Members. It has also been claimed that the dam causes fragmentation of habitat of the Gangetic Dolphin downstream. Submergence of the nearby Medicinal Plants Conservation Area has also been claimed.

8. In the area over 105 km downstream of the Demwe site, any flow fluctuations are bound to be moderated, especially when the span of the river opens up substantially below the dam site, mainly due to the wide span of the rivers like Siang and Dibang. Many of the chapori island areas do not get submerged even in monsoons, are agricultural areas under community control and have been reported by the State Government as not good avifaunal habitats. There are no reports of sighting of Gangetic Dolphins in the vicinity of the proposed dam site. Any impact on the life forms of such environmental changes also depends upon their tolerance and resilience towards the changes and their adaptive potential. These aspects have seemingly not been taken into consideration by the non-official Members while highlighting the threats to life forms. As regards the Medicinal Plants Conservation Area (MPCA), it has been specifically clarified by the State Government authorities that the same does

not face any submergence and is about 150 mts. above the submergence level. Hence this cannot be accepted as a concern to halt the project. Moreover, a Biodiversity Conservation and Wildlife Management Plan for the area is in place and appraised by the State Wildlife Board. It will, however, be appropriate to take up comprehensive studies on the related aspects simultaneously so that any potential impact can be understood and mitigated by concurrent management interventions.

9. Keeping the above-mentioned facts in view, potential of clean energy of the project, *vis-a-vis,* relatively a fewer environmental and societal impacts, it is clear that the project can be supported along with adequate arrangements of monitoring the ecological dynamics in the region with appropriate interventions as and when required.

10. In the circumstances, and as a follow-up of the minutes of the 24th Meeting of the Standing Committee of NBWL held on 13 December 2011 under the Chairpersonship of the Minister of State (Independent Charge) Environment and Forests, the proposal for construction of Demwe Lower HEP is hereby recommended on behalf of the Standing Committee of NBWL in accordance with relevant orders of the Supreme Court, with the following additional measures to be taken over and above the conditions stipulated in the environmental clearance, recommendations of the State Board for Wildlife, and directions of the National Environmental Appellate Authority:

1. A comprehensive study will be conducted on the ecological impacts of the environmental changes and mitigation thereof, associated with the commissioning of the project.
2. A cumulative impact assessment shall be conducted presuming all the proposed dams are constructed on the Lohit River. This study should be made the basis of consideration of any subsequent proposal on the upstream river stretches.
3. The state government in consultation with this Ministry will commission Indian Institute of Technology (IIT), Roorkee to conduct the studies related to the ecological impacts and cumulative impacts of the project.
4. The above-mentioned studies by the IIT, Roorkee will not precede construction of the project, but will continue concurrently, and mitigation measures proposed in the studies will also be complied with concurrently.

11. This issues with the approval of the Minister of State (Independent Charge) Environment and Forests, and the Chairperson of the Standing Committee for NBWL.

P. Srivastava

(Prakriti Srivastava)
Deputy Inspector General of Forests

1. Chief Secretary, Government of Arunachal Pradesh, Itanagar
2. Principal Chief Conservator of Forests, and Principal Secretary (E&F), Government of Arunachal Pradesh, Itanagar
3. Chief Wildlife Warden, Government of Arunachal Pradesh, Itanagar

Copy to: Technical Director (NIC) for uploading the O.M. on the Ministry's website.