Recommendation of Wildlife Warden/District Forest Officer, Nandyal

The user agency South Central Railway has applied for diversion of 23.04 Ha. area in Nandyal Division for the project of doubling and electrification of Guntur-Guntakal railway track. As stated by user agency the project is vital rail link to connect the coastal region with Rayalaseema, Karnataka & Tamilnadu. This will also decongest traffic on existing track. In addition it will improve connectivity from Eastern India to Silicon Valley of India, Bangalore.

As per the observations during the site inspection, the area requirement for the project seems to be minimum and essential. Since the project involves doubling of existing railway line, the location for the same is selected by user agency besides the existing railway track only. This implies that the project is site specific. Hence the project because of its nature requires specific site and the requirement seems to minimum.

The proposed diversion area falls outside any national park (NP) / wildlife sanctuary (WLS). Further the proposed diversion area of 23.04 ha. falls in the Eco Sensitive Zone (ESZ) of Gundla Brahmeswaram (GBM) Wildlife Sanctuary. The sanctuary is extended core / Critical Tiger Habitat (CTH) of Nagarjunasagar Srisailam Tiger Reserve (NSTR), the largest tiger reserve of the country. The proposed diversion area is also part of one of the finest tiger corridor connecting Nagarjunasagar Srisailam Tiger Reserve (NSTR) in Nallamala forest with Sri Venkateswara National Park (SVNP) in Seshachalam forest in the State of Andhra Pradesh. Tigers (*Panthera tigris*) have been recorded in recent times all along the corridor and there is a resident and breeding population of tigers in the area. Since Tiger is the apex predator and a symbolic conservation agent, a very rich faunal diversity from carnivores and herbivores to reptiles, insects, butterflies etc., exists in the region. The Eco Sensitive Zone (ESZ), Gundla Brahmeswaram (GBM) Wildlife Sanctuary and the corridor is one of the most biodiverse region of the state as well as country.

Accordingly, wildlife movement is frequent across the proposed diversion area. In past due to existing railway track, there have been mortalities of Tigers (*Panthera tigris*) and Leopards (*Panthera pardus*) etc., from train accidents. Each individual tiger maintains and inhabits a large area and lot of effort in all terms is put towards its conservation by the Government. Hence such accidental casualities are real undeniable loss. In this regard, the likely impact of the proposed doubling of railway line has to be mitigated and minimized by adopting wildlife friendly infrastructure measures. As such individual casuality and disturbance of wildlife habitat causes a disturbance in delicate balance of nature, effects of which are immense both locally and at large scale. Regular killings of herbivores such as Sambar etc., are occurring on the existing railway track. The barries effect is leading to isolation of population and reduced mobility. Stress in animals also increase due to this and it leads to overall effect on their neath and population.

Plan of Mitigative measures:

The proposed railway doubling project will have effect on movement of wildlife and its habitat through barrier effect, mortality, habitat fragmentation, usage of heavy machinery during project construction phase etc. In this regard mitigation measures need to be implemented to reduce the impact of project on wildlife and their habitat. Following mitigative measures are suggested after field inspection.

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i. Underpasses at the locations of existing underpasses in the existing track. These should allow animals to move across both tracks. The cost should be incorporated in the project itself by user agency. The dimensions of underpasses are suggested to be of box shape of height (5m / as per embankment height) and width 5-8m / as per existing width). Since a single line already exist, the underpasses in the new track is to be selectively placed so that connectivity can be maintained across both tracks after doubling.

ii. Pole barriers at critical places such as turnings etc.

iii. Fencing near the suitable places and underpasses to divert animals towards safe passages. However fencing should be done at collision hotspots only else it will increase barrier effect. Total maximum length of fencing proposed 7 kms (including both sides).

iv. Overpasses are proposed at the cutting locations. Overpasses will provide the connectivity across two hillocks on both sides of tracks. The cost should be incorporated in the project itself by user agency.

v. Sound based early warning systems near sensitive places such as tunnels and turnings etc., to alert locopilot as well as animals regularly.

vi. Provisioning of monitoring the track and animals through drones (2 drones + 2 operators + 2 monitoring teams 5 members each).

vii. Signages and boards to be placed at frequent intervals in consultation with forest department to aware the locopilots about movement of wildlife.

viii. Awareness among locopilots regarding using train horn and lighting continuously while moving across the forest area so as to deter any animal from moving along the track or crossing it during train approach.

ix. Train speed should be reduced and minimized in forest area and instructions issued by NTCA / NBWL in this regard from time to time should be followed scrupulously. It is recommended to enforce train speed of 60 km/hr maximum.

x. Habitat improvement works (as mentioned in the detailed Mitigation Plan to be prepared later).

xi. In future in case of access negative effects and reports of detailed studies, if forest department imposes any restrictions / conditions these should be binding on user agency in the interest of forests and wildlife.

xii. Quarterly coordination meeting of forest and railway officials to be kept to resolve any issues.

xiii. User agency to incorporate any suggestions in their operations given by forest officials time to time.

In addition, it is recommended that a detailed study to understand the railway ecology and suggest further mitigation measures in the proposed doubling project can be conducted by experts from Wildlife Institute of India (WII) provisioned by user agency and any mitigation plan suggested can be incorporated by the user agency.

Similarly it is recommended that a detailed Wildlife Mitigation Plan for Schedule-I fauna can be prepared by user agency in consultation with detailed study by Wildlife Institute of India.

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Financial outlay:

i. Cost for detailed study to be done by WII-cost to be borne by user agency–Rs.10.00 lakhs
ii. Detailed conservation plan and the mitigation measures apart from the one which are incorporated in the project itself - approx. 10 crores.

On the other side, it is a fact that the train frequency and traffic on the existing single line is high and there is a need of decongestion. It is also a fact that train / railways as a mode of transport is one of the most environment friendly mode and is comparatively cheaper also. These advantages are significant and cannot be neglected in the sense of overall environment conservation and social development of the nation. Moreover, the project is site specific and already a railway line exist. Hence selected site for doubling is justified in light of alternatives.

In this regard, the demand of user agency for the said area of 23.04 ha. for diversion of forest land between Diguvametta and Gajulapalli stations for doubling and electrification of Guntur-Guntakal Railway track is recommended. However, the user agency to include above measures as part of mitigation steps to reduce the impact of project over one of the highly biodiverse, wildlife rich and pristine forests of Nallamalla hills in the State of Andhra Pradesh in the interest of ecological security of region and country.

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Signature: