

CHAPTER-V : BORDER ROADS ORGANISATION

5.1 Improper selection of sites for bridges

Selection of sites without carrying out sub soil investigation (SSI) by Headquarters DGBR resulted in subsequent foreclosure of work after the soil strata was found unfit for construction of bridges. The need for SSI was ignored despite specific instruction on the same. Non-compliance resulted in wasteful expenditure of ₹ 2.53 crore.

Indian Road Congress (IRC) lays down the need for verification of geological characteristics of the soil like previous site investigation reports, examination of geological surface, characteristics of the existing geo-materials, sub surface exploration to determine the suitability of soil or rock for foundation of bridge. Technical instruction (TI) no. 3 of Border Road Organization (BRO) also stipulates that for a bridge project site survey and sub soil investigation (SSI) be carried out in a planned manner by HQ DGBR.

We observed in two Border Road Organisation (BRO) projects that selection of site for construction of permanent bridges was done ignoring the requirement of SSI and other aspects mentioned in IRC. Work on construction of two bridges had to be foreclosed after the soil strata was not found appropriate for laying foundation resulted in infructuous expenditure of ₹2.53 crore as discussed below:

Case I

Based on the recommendations of the Board of Officers (BoO) for construction of major permanent bridge with steel superstructure over river 'Irang' on Imphal Barak road, Ministry of Road, Transport and Highways (MoRT&H) in July 2010 accorded Administrative Approval (AA) and financial sanction for ₹4.41 crore. The AA however stipulated that since the SSI report had not been enclosed with the proposal for sanction the same needed to be carried out at the foundation locations followed by confirmatory boring.

Notwithstanding the necessity for SSI, brought out in the TI and stipulated specifically in the AA, execution of the work for the bridge was commenced departmentally in February 2011 without carrying out the SSI. During execution of the work, it was however, found that hard strata did not exist at foundation level and therefore construction of abutment above loose soil was considered unsafe. The safe bearing capacity(SBC) was found much less on both sides of the abutment. HQ DGBR therefore advised Chief Engineer (P) Pushpak in July 2012 to

explore a fresh site. The site was therefore given up after incurring an expenditure of ₹ 2crore (March 2013).

On being pointed out by Audit (August 2012) about non carrying out SSI before selection of the site for proposed bridge, the Border Roads Task Force stated (September 2012) that after reaching the excavation up to foundation level and seeing the soil strata, it was felt necessary to carry out SSI. The reply was not tenable as not only was the need for SSI specified in the TI issued by DGBR but the AA accorded by MORTH also emphasized on the same. Non-compliance to these instructions therefore resulted in selection of improper site which had to be consequently abandoned after incurring an expenditure of ₹2 crore.

Case II

In another case, Chief Engineer (P) Dantak recommended (June 2007) construction of major permanent bridge over 'Ritchu Nallah' on the Gangtok-Chungthang road which *inter alia* contained requirement of SSI as part of the project. Accordingly, HQ DGBR in July 2007 accorded AA and expenditure sanction for ₹2.55 crore for the work. CE (P) Swastik¹⁴ concluded a contract in December 2009 for construction of the bridge with M/s Mohan Bajaj, Gangtok at a cost of ₹2.70 crore with completion period of the works by December 2011. The drawings for the bridge were however approved by HQ DGBR without carrying out SSI.

During execution solid strata on one side abutment of the bridge was found to be very loose and mixed with boulders and its further excavation was perceived by executives to be potentially threatening a breach in the existing road. The abutment location was therefore shifted but soil strata remained loose even at the revised location. The construction of a permanent bridge was therefore not considered possible and the contract was foreclosed by DGBR in February 2013. By that time an expenditure of ₹53 lakh had been incurred on the work.

We observed (January 2015) that the SSI, as recommended by the CE (P) Dantak was not carried out by DGBR before execution of foundation of the bridge, as a result appropriate soil strata for laying the foundation of bridge could not be found and therefore construction of bridge had to be abandoned after incurring an expenditure of ₹53 lakh.

The cases were referred to the Ministry in January 2016; their reply is awaited (March 2016).

¹⁴ The work which was initiated by CE (P) Dantak, got shifted to CE(P) Swastik for execution.

5.2 Procurement of Cranes without proper need assessment

Against a demand for two lattice cranes, Director General Border Roads procured seven cranes for various Border Road Projects. The capacity of cranes procured was more than double of what had been demanded and approved. Due to sheer size and absence of adequate necessity, the cranes procured in 2012 at a cost of ₹6.81 crore remained underutilized to an extent of 86 per cent.

Lattice Crane with Grab buckets (Crane) is a specialized equipment for digging of sink wells in river bed for construction of pillars for the RCC foundation of a permanent bridge. Against a requirement projected by Chief Engineer (Project) Udyak for nine lattice cranes in the Budget Estimates of 2010-11 & 2011-12, Director General Border Roads (DGBR) accepted and included a demand for seven numbers of cranes in their Annual Procurement Plan 2011-12. Border Road Development Board (BRDB) approved the procurement of seven cranes of specifications similar to Tata PH-320 crane i.e. having load capacity of 18 tons, operating weight 23000 Kgs *etc* in AAP 2011-12. On approval, DGBR placed supply order (December 2011) on M/s Titagarh Wagons Ltd, Hoogly for procurement of seven cranes with load capacity of 40 tons and working weight of 46000 Kgs at a cost of ₹6.81 crore including transportation. Audit observed that not only was the capacity of the cranes so procured more than double of the requirement, but the boom size and overall width area was also larger by 22 and 41 per cent vis-a-vis the size of the cranes demanded by the users and approved by BRDB.

As per supply order five cranes were to be consigned to Project Brahmanak and two cranes to Project Vartak. The firm supplied the Crane by October 2012 and commissioned the same by June 2013 at four different Projects as shown in the **Table-16** below:

Sr. No.	Name of the Project	Qty. in nos.	Date of commissioning
1.	Udayak	02	04/05/12 and 08/10/12
2.	Brahmanak	02	10/05/12 and 01/11/12
3.	Vartak	02	11/10/12 and 24/06/13
4.	Arunank	01	31/10/12
	Total	07	

Immediately on receipt of supply and commissioning of equipment by the firm at Project Brahmanak, Chief Engineer (P) informed DGBR (May 2012) that the cranes cannot move in mountainous terrain due to their sheer size, related parameters and the optimum use of the crane can only be done in plain areas, that too, in construction works. Further, it was stated that the limitations of its movement, assembling/disassembling time and other maintenance tasks made it unsuitable for deployment in their area of responsibility. Further Chief

Engineers (Project) i.e. Vartak and Brahmanak also informed (September 2012 and October 2012) DGBR that one of the two cranes were surplus to their requirement and requested to transfer the same to other needy projects. DGBR therefore asked for the requirement of the crane from other projects. However, no demand was received, probably as most of the Border Road projects are located in similar mountainous terrains.

Audit analysed the usage records of the cranes and observed (June/September 2015) that against the laid down levels for utilization by DGBR the utilization of four cranes in three Projects viz Vartak, Brahmanak & Arunak was as low 5.5 per cent to 7.9 per cent only. One crane at Vartak was lying without use for three years since its receipt (September 2012). Only in one Project (Udyak) where two cranes were commissioned, the utilization of both cranes was 26.09 per cent and 49 per cent of the desired level. Against an audit query regarding assessment of requirement of the seven cranes and about its low utilization, the DGBR stated (October 2015) that the requirement of cranes was assessed by the project on the basis of bridging targets and considering the enormous potential in permanent bridging work. It was also stated that since BRO units are located at remote and for flung areas, outsourcing of works like digging sink well was not possible, as induction of such huge equipment by the firms in remote areas involved huge effort and financial implication.

The reply is not acceptable as despite the requirement and justification, overall utilization of these equipment was only 14 per cent against the desired level. Utilization of five out of seven cranes procured was less than 7.9 per cent. Further three Projects, where five cranes were commissioned, had not even raised demand for the equipment but were issued in spite of its limitations of operating in mountainous terrain. Thus, seven lattice cranes procured at a cost of ₹ 6.81 crore in anticipation of the bridging targets and potential permanent bridging work, remained underutilized by an extent of 86 per cent. The assessment of requirement of those cranes was therefore inaccurate.

The case was referred to the Ministry in January 2016; their reply was awaited (March 2016).