

Indent Date:- 16/12/08

Annexure to Indent for:- Fabrication, supply,testing & commissioning of Transformer Lifting/Lowering Trolley for 3 Phase loco WAG-9 as per scope of work & technical specification attached.

SCOPE OF WORK & TECHNICAL SPECIFICATION OF TRANSFORMER LIFTING TROLLEY.

I.The tenderer is advised to visit ELW/Bhusawal & ELS/AJNI (Nagpur) where the similar trolley has been commissioned to study the design and its operating method for the application where it is used. The winch & trolley is designed to lift the Transformer of 10 Ton in to air to match the holes and tighten the bolts & Nyloc Nuts for fixing the transformer to the under frame of locomotive. An additional arrangement of the platform is to be done as per Drg. No. NGP/TRS/4/13.243 ALT- 1 which will be mounted on the basic trolley of Drg. No. 40/WAP-5/ABB/98 & 41/WAP-5/ABB/98 with the help of jacks. The platform will be lowered/raised with the help of synchronized jacks with the complete load of transformer on it.

It should be possible to use the arrangement of platform as described above and winch arrangement as an alternative to each other. The additional platform to be provided as per Drg. No. NGP/TRS/4/13.243 ALT- 1 should be detachable from the basic trolley of Drg. No. 40/WAP-5/ABB/98 & 41/WAP-5/ABB/98, 42/WAP-5/ABB/98.

The mounting of jacks on the basic trolley should be with the help of nut and bolts of hardness ST 8.8

II. Work to be done:

a) Use of 200mm, Square column mild steel (IS 226) of 16mm thickness to form gantry as shown in Drg. No. 42/WAP-5/ABB/98. Two such gantries shall have to be fabricated and assembled at Electric loco shed/NKJ/WCR. The required grouting for gantry will have to be done by the contractor. Fasteners used shall be high tensile zinc plated having adequate strength.

b) Hand operated switch with suitable gear box arrangement to give small angular progressive movement in both the directions, shall be provided as per mounting arrangement shown Drg. No. 42/WAP-5/ABB/98. Each of the winch shall be capable of taking 5 Tons (Five Tons) load. All winches should have a provision of locking at any desired location while lifting the trolley.

c) Pulley block suitable to take a reaction load of 10 Tons (Ten Tons) shall be provided as per the mounting arrangement shown in Drg. No. 42/WAP-5/ABB/98 and 41/WAP-5/ABB/98.

d) Complete trolley arrangement should be as per Drg. No. 40/WAP-5/ABB/98 and 41/WAP-5/ABB/98. Besides above the firm has to provide one additional plate form as per Drg. No. NGP/TRS/4/13.243 Alt-1 & detail mentioned.

e)Steel wire rope capable of taking at least 10 Tons load at each of the four corners of Trolley of adequate strength with 'D' shackles shall be provided to take total load of 20 Ton. Suitable sleeve at end portion of neck shall be provided by you so as to prevent wearing of rope at neck.

f) The contractor has to demonstrate the suitability of trolley and winch arrangement as well as trolley and jack system both individually by actually mounting a transformer in the loco with the help of both the arrangement.

g)Factor of safety for all load bearing members/components of above arrangement to be taken as more than equal to 1.5 and contractor has to give documentary evidence of testing of various sling/ropes/pulleys as per above factor of safety.

LIST OF DRAWING

S.N.	Description	Drawing No.
01	Trolley for Transformer lifting assembly	40/WAP-5/ABB/98
02	Trolley details for Transformer lifting	41/WAP-5/ABB/98
03	Lifting arrangement for Transformer (WAP-5 & WAG-9)	42/WAP-5/ABB/98
04	Additional Plate form with jack for Transformer lifting trolley for WAG-9 loco.	NGP/TRS/4/13.243 Alt-1

INSPECTION:

- a) Stage inspection shall be offered by the contractor on the basis of the stage of manufacturing.
- b) Authorized representative of Dy.CEE/C/BPL or Sr.DEE/TRS/NKJ will inspect the equipment at firms' premises before dispatch of the same to ELS/NKJ.
- c) Cost toward any test carried out by the consignee during the inspection shall be born by the contractor.

GUARANTEE:

- a) The equipment shall be warranted/guaranteed for the period of 02 years from the date of successful commissioning of the equipment at ELS/NKJ.
- b) The decision of Railway in regard to the cause of failure and nature of rectification to be carried out by the contractor during guarantee period shall be final and binding on the part of the contract.
- c) The transportation will be at contractor's cost which includes repair during guaranteed period.