

ANNEXURE-A

SP/T-0503/0622

RFx 5000001003

CLARIFICATIONS ON PRE-BID QUERIES

Item No. 6 : 1x50MVA, 132-110/33KV Power Transformer alongwith New Uninhibited High Grade Mineral Insulating Oil

Sr. No.	Comments/Clarification Sought by the Bidder	MSETCL Comment/Clarifications
Observations of the Bidder as per specification: Existing requirement as per TS is 50 MVA, 132-110/33 kV with +5 % to -15 % in 1.25 % for 132 kV and +6 % to -18% in 1.5% for 110 kV		
1	Dual voltage ratio windings are either connected in series or in parallel to achieve desired voltage ratios. Winding connections are changed through internal terminal links or external operated switch. Windings are tapped out to connect to the links/switch.	
2	Changes to internal connections may involve connecting windings in series or parallel. Due to change in connections, windings are experiencing voltages which are non-linear under impulse conditions and special consideration to be offered for leads take out arrangement. If equal number of turns are not provided between the two parallel half of the winding, circulating current may generate additional losses and local overheating.	
3	Special attention is required to take out the leads of these parallel sections. If not done properly localized heating may occur between the two parts which are be connected in series or parallel.	
4	Special consideration is also required for the short circuit forces which are acting on the windings during operation. AT/mm to be balanced along the entire height of the winding to reduce the axial forces. If not done properly transformer may face severe short circuit forces and high probability for failure during changing from one voltage to another.	
5	Dual voltage transformers are of special design and require special attention from customer as well from manufacturer to maintain its quality all the time. If customer can keep one voltage level instead of dual transformer becomes simple and give more reliable operation .	
SUGGESTION AGAINST EXISTING REQUIREMENT: Transformer with extended tapping range to be considered. Tapping range of +5% to -32.5% in 1.25 % step on 132 kV can cover entire voltage range from 138.6 kV at highest tap to 89.1 kV at minimum tap. This design will be like normal power transformer comprising LV, HV, Tap winding eliminating additional winding which is required for series/parallel connection. The design becomes simpler & cost effective and can surely give better performance at site. Considering total tapping range of 37.5%, across tapping range voltages will be calculated and suitable OLTC will be selected eliminating link board arrangement.		Not Acceptable. Offer shall be as per MSETCL's technical specification