

# ANNEXURE-C to TENDER BAP/CAP/2014-15/OT-05

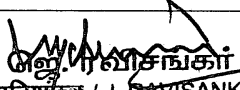
## TECHNICAL SPECIFICATION FOR PORTABLE METAL ANALYSER

### BRIEF DESCRIPTION:

Portable Metal Analyser is required for Positive Material Identification (PMI) on various Boiler Auxiliary Components at different locations


### TECHNICAL SPECIFICATION

SL.NO	Description	BHEL REQUIREMENT	Bidder' comment
<b>1.0 Purpose</b>			
1.1	Purpose	Positive material identification (PMI) on various Boiler Auxiliaries materials at different locations.	
1.2	Jobs to be analyzed	Plates, Fittings & Castings, Weldments of Carbon Steel, High Alloy Steel, Low Alloy steels, Stainless Steel, Nickel based alloys, Aluminum alloys etc	
<b>2.0 Principle of operation</b>			
2.1	Principle of operation	X-ray Fluorescence	
<b>3.0 Machine Configuration</b>			
3.1	Weight	2 kg approx.	
3.2	Power Source	The equipment shall work with rechargeable battery pack with AC charger. In addition, one extra battery pack shall be supplied as stand by. One complete recharge should give minimum 8Hrs of operation.	
3.3	Battery type	Vendor to specify	
3.5	Application	To know the chemistry of elements in a particular material specification	
3.6	Elements to be analyzed	<b>Chemistry of all elements present in a metallike Mn, Ni, Cr, Mo, Fe, V, W, Cu, Al, Si, Mg etc (supplier to indicate complete list).</b>	
3.7	Grade Library	Standard Grade Library along with option for user to add custom grade.	
3.8	Memory	Vendor to specify	
3.9	Xray tube life	Vendor to specify	
3.10	Cooler tube life	Vendor to specify	
<b>4.0 User Interface</b>			
4.1	Interface	USB serial communication port could be provided in order to transfer the data to computer for displaying the data and taking printout.	
4.2	Display	LED/LCD display	
4.3	Keyboard	Touch screen keyboard, User Programmable pick list.	
4.4	Security	Password protected user security	
4.5	Key pad	Easily replaceable keys to be provided	
<b>5.0 Accessories</b>			
5.1	List of essential accessories to be provided along with offer	Vendor has to specify the entire list of accessories	
<b>6.0 SAFETY</b>			
6.1	Safety of operation	Standard radiation safety features has to be provided. It should be certified by relevant authority.	
7.0	List of recommended spares	Vendor has to provide the list of recommended spares.	
8.0	Service manual	Two copies of service / Instrument manual to be provided.	

  
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9.0	Pre dispatch Inspection	The total assembly of equipment shall be tested for its performance by the supplier at supplier's works prior to dispatch of the equipment and test certificate shall be given	
<b>10.0 Installation &amp; Commissioning</b>			
10.1	Installation & commissioning & performance prove out	Commissioning & Prove out has to be done at BHEL, Ranipet by the supplier	
<b>11.0 Training</b>			
11.1	Training on operation & maintenance	Vendor to provide training and certification in operating the instrument at BHEL, Ranipet	
<b>12.0 Guarantee</b>			
12.1	Guarantee	Minimum 12 months from the date of commissioning	
12.2	Annual Maintenance Contract	Vendor to indicate whether Annual Maintenance services can be provided on contract after the guarantee period is completed	

  
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