

**FORMAT B.1****Format for Technical Pre-Bid Queries****Tender N TPSODL/OT/2023-24/045****Package / Purchase Order for -----****Bidder :****Note :** The said format to be used only for Technical Pre-Bid Query. Any Commercial Query has to be strictly in Format B2 Format for Commercial Pre-Bid Query and sent separately

Format to be used for query regarding Technical Pre-Qualification Requirement, Safety Pre-Qualification Requirement, Technical Set of Document

**Pre-Bid Query has to be sent in editable Excel file format only****Pre-Bid Query has to be sent through e-mail in TPSODL E-Tender System**

Sr. No.	Detailed Reference to TPSODL Technical Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	TPSODL Response
1	2	3	4	5
1	Specification for 33KV Arc Flash jacket with accessories DOC. NO.: ENG-EHV-SPECIFICATION FOR 33KV ARC FLASH JACKET WITH ACCESSORIES	a) ISO 13934-1:2013: Test method for determining the resistance of textiles to tensile forces	met	
2		b) ISO 13937-2: 2000: Determination of tear force of trouser-shaped test specimens (Single tear method)	met	
3		c) ISO 5077 Determination of dimensional change in washing and drying for textile	met	
4		d) ISO 17493: Test method for convective heat resistance using a hot air circulating oven	met	
5		e) ISO 15025:2000: Protective clothing — Protection against heat and flame — Method of test for limited flame spread	met	
6		f) ISO 9151:2016: Determination of heat transmission on exposure to flame	met	
7		g) ISO 6942: Protective clothing — Protection against heat and flame — Method of test: Evaluation of materials and material assemblies when exposed to a source of radiant heat	met	
8		h) ISO 9185: Assessment of resistance of materials to molten metal splash	MENTIONED / REQUIRED ARC FLASH UNIFORM / KITS ARE NOT MEANT TO PROTECT FROM MOLTEN METAL SPLASHES AS THE APPLICATION IS DIFFERENT. SO 9185 CERTIFICATION IS NOT REQUIRED FOR ARC FLASH GARMENTS.	Noted
9		i) ISO 12127: determines the transfer of heat by contact through protective clothing or its component materials	met	
10		j) IEC 61482-1-1: Test method: Open Arc Ranking, presented with a Value. APTV (Arc Thermal Performance Value)	met	
		k) EN 343: Waterproof and breathable - Class 3-3	NOT REQUIRED FOR ARC FLASH KITS FOR 33KV. PLEASE CLARIFY IF YOU REQUIRED THE SAME AS THIS IS RELEVANT FOR FLAME RETARDANT WEATHER PROTECTION.	Specification to be complied
	l) EN 1149-1: Protective clothing: Electrostatic properties (surface resistivity)	met		
	m) EN 1149-3: Protective clothing. Electrostatic properties (charge decay)	met		
	n) EN 1149-5: Protective clothing. Electrostatic properties (charge decay)	met		
	o) EN 20471: High visibility warning clothing for professional use	HIGH VISIBILITY IS NOT REQUIRED FOR ARC FLASH KITS FOR 33KV. AVAILABLE COLOURS ARE NAVY BLUE & METAL GREY. HOWEVER, WE CAN SUPPLY THE SAME IN HIGH VIZIBILITY COLOUR AS WELL IF REQUIRED AT YOUR END. PLEASE CLARIFY.	Specification to be complied	

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		p) ASTM F1449 Industrial Laundering of Flame, Thermal and Arc Resistant Clothing	met	
		q) ASTM 1506: Specification for Flame Resistant and Electric Arc Rated Protective Clothing Worn by Workers Exposed to Flames and Electric Arcs	met	
		r) NFPA 70E: standard for Electrical Safety in the Workplace	met	
		s) ASTM F2178: Standard Test Method for Determining the Arc Rating and Standard Specification for Eye or Face Protective Products	met	
		t) ISO 13938-2: Bursting properties of fabrics — Part 2: Pneumatic method for determination of bursting strength and bursting distension	<b>ISO 13938-2 describes a method using hydraulic pressure- again which is not required for ARC FLASH KITS FOR 33KV</b>	Noted
		u) IEC 61340-2-3: Methods of test for determining the resistance and resistivity of solid materials used to avoid electrostatic charge accumulation	<b>Methods of test for determining the resistance and resistivity of solid materials used to avoid electrostatic charge accumulation, specially for single layer uniforms. BUT 40 CAL ARC FLASH SUITS FOR 33KV IS MADE OF MULTIPLE FABRIC / LAYERS SO SHOULD NOT BE APPLICABLE.</b>	Specification to be complied
		v) ASTM F1116: Standard Test Method for Determining Dielectric Strength of Dielectric Footwear	<b>AS PER TENDER DOCUMENT, DI-ELECRTC FOOTWEAR IS NOT REQUIRED / INCLUDED IN THE KIT</b>	Footwear not required
		w) ASTM F1117: Standard Specification for Dielectric Footwear	<b>AS PER TENDER DOCUMENT, DI-ELECRTC FOOTWEAR IS NOT REQUIRED / INCLUDED IN THE KIT</b>	Footwear not required
	<b>CLIMATE CONDITIONS OF THE INSTALLATION:</b>	<p>a. Maximum altitude above sea level 1,000m</p> <p>b. Maximum ambient air temperature 50°C</p> <p>c. Maximum daily average ambient air temperature 35°C</p> <p>d. Minimum ambient air temperature 18°C</p> <p>e. Maximum relative humidity 95%</p> <p>f. Average number of thunderstorm days per annum (isokeraunic level) 70</p> <p>g. Average number of rainy days per annum 120</p> <p>h. Average annual rainfall 150cm</p> <p>i. Earthquakes of an intensity in horizontal direction - equivalent to seismic acceleration of 0.3g</p> <p>j. Earthquakes of an intensity in vertical direction - equivalent to seismic acceleration of 0.15g (g being acceleration due to gravity)</p> <p>k. Wind velocity: 300 km/hr, 200 km/hr and 160 km/hr. environmentally, some of theregions, where the work will take place includes coastal areas, subject to high relativehumidity, which can give rise to condensation. Onshore winds will frequently be salt laden. On occasions, the combination of salt and condensation may create pollution conditions for outdoor insulators. Some places are in heavily industrial polluted areas. Therefore,</p> <p>l. Outdoor material and equipment shall be designed and protected for use in exposed,heavily polluted, salty, corrosive and humid coastal atmosphere</p>	<b>NOT REQUIRED FOR ARC FLASH KITS FOR 33KV</b>	Noted
		<ul style="list-style-type: none"> <li>• Fabric - Garment shall be Arc flash resistant ultra-soft cotton for comfort and breathability.</li> <li>• Garment shall be made of multilayer arc flash resistance, inherent blend fabric.</li> <li>• Garment shall be sewn with inherently flame-retardant thread.</li> </ul>	met	

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		Jacket : • Curved collar for better fitting and looks. • Front closure with zip and snap button, durable compared to Velcro closure. • Knitted cuff, for better fitting. • Self-folding Placket, for neat finish and looks. • Inside clean finish, seams not visible. • Set in sleeve style, sleeve movement independent of body. • Coat should meet ASTM 1506 and NFPA 70E standards • Clean finish, concealed seams for good finish.	met	
		Bib Overall/Trouser : • Closed suspender without buckles, for donning by single person. • Gore for waist extension, ease of adjustment at waist area with additional waist tab for size adjustment. • Gore for bottom extension up to waist with two tab to close for easy donning with shoes on. • Inside clean finish, with concealed seams for improved finish.	met	
		Standard Hood : • Paulson Visor with Arc Rating more than 40 cal/cm2. • Round cut U Shape design at shoulder of better shoulder movement. • Clear Visibility with maximum view on sides. • It should have facility for sufficient air flow for breathing. • Hood should meet ASTM F2178 and NFPA 70E standards along with the flammability requirements of ASTM F1506. • Helmet shall be class E type as per ANSI/ISEA Z89.1-2014 (R2019).	<b>PAULSON is a specific brand from a specific manufacturer. We provide OBERON (brand, made in USA) clear (not green) visor / face-shield which is also well reputed.             **All other TPSODL's mentioned parameters we are matching.</b>	Noted
		Principal Parameter : • Arc Thermal Protective Value (ATPV) shall be more than 50 cal/cm2 • Energy incident limit (ELIM) as per IEC IEC 61482-1-1:2019 shall be more than 40 cal/cm2 • Jacket & bib overall/trouser shall be made of multilayer fabric weighing 410 GSM(±5%) • All claimed parameter should be marked on suit through a label or printed. • All product should be manufactured by single manufacturer.	<b>our jacket, bib-trouser and hood's Arc Thermal Protective Value (ATPV) is more than 40 cal/cm2 i.e. 45 cal/cm2 (which we are currently supplying to Tata steel, JSPL, OCPL, TPWODL, Vedanta, Siemens etc.). As per NFPA standard, more than 40 Cal ATPV at any work-place is not suitable to work on-line/off-line.             ** Our fabric weight is 470GSM instead of your mentioned 410GSM. All other Parameters we are matching.</b>	Specification to be complied
		Total Kit : • Arc rated Jacket with Arc rated Bib Trouser. • Arc rated Hood with Class-E Helmet and Arc rated Visor. • Arc rated fabric over gloves. • Kit bag.	met	
	5.2	Reflective Trim Inspection: If the jacket has reflective trim for increased visibility, ensure that the trim is intact and adhering well to the jacket's fabric.	AS Per NFPA 70E, reflective trim is not required in 40cal suit	Noted
	8	In the event any defect is found by the Purchaser up to a period of 5 year from the date of commissioning and last supplies made under the contract	Warranty will be 1 year against any manufacturing defect	Specification to be complied