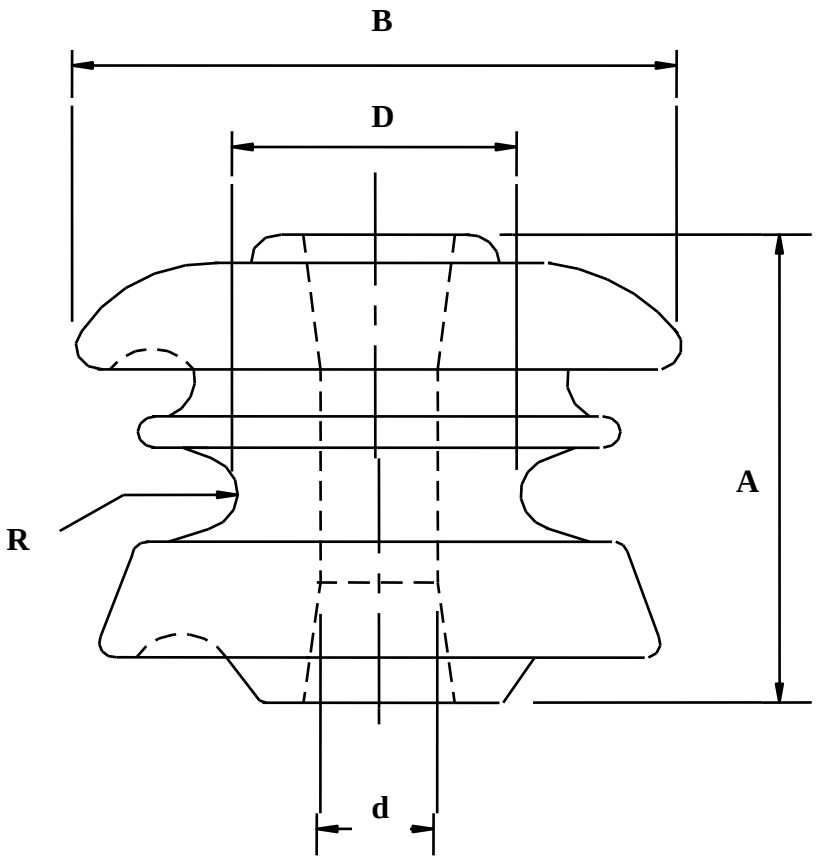
SCHEDULE A: MINIMUM ZESCO REQUIREMENTS

S/N	Description	Unit	Data
1.	Nominal Voltage	kV	0.4
2.	Highest System Voltage	kV	0.44
3.	Leakage Distance	mm	66
4.	Power Frequency withstand voltage Wet	kV	12
5.	Dry	kV	25
6.	Power Frequency Puncture voltage	kV	1.3 x Actual Dry Flash Over Voltage
7.	Mechanical Strength (transverse)	kN	15
8.	Altitude above sea level	m,	1400
9.	Operating ambient temperature	^{0}C	-1 to 40
10.	Relative humidity (Maximum)	%	85
11.	Net weight (Approximate)	kg	0.6
12.	POROSITY		NIL
13.	Applicable Standards		SABS 161
14.	❑ Previous type test certificate/results to be provided with the bid	Yes/No	Yes
15.	❑ Routine test certificate to be provided on delivery of insulators	Yes/No	Yes
16.	❑ Manufacturer's quality manual /ISO 9000 Certification to be provided with the bid	Yes/No	Yes
17.	❑ Drawings showing dimensions and tolerances of Insulators offered to be provided with the bid.	Yes/No	Yes

Prepared By	Date	Reviewed By	Date	Approved By	Date
Ezilon Luka	22/10/15	Daniel Sichela	23/10/15	Bright Sepiso	25/10/15

SHACKLE INSULATOR DRAWING



Dimensions and Dimensional Tolerances

Specifications	A mm	B mm	D mm	d mm	R mm
Nominal	75	88	41	17	8
Minimum	74.1	86.6	39.6	16.5	7.5
Maximum	78.2	91.1	42.9	17.5	9.1

OTHER REQUIREMENTS

Markings

a) Insulators shall be marked with the specified Electro-mechanical or mechanical failing load e.g. U70 BL.
b) Insulators shall have indelible manufacturers trade mark and date of manufacture.

Special clause:

a) Bidders may submit alternative offers, which may be of financial or technical benefit to ZESCO Ltd.
b) Definitions and extra explanations on requirements are outlined in Annex A

SCHEDULE B: TO BE COMPLETED BY BIDDER

S/N	Description	Unit	Data
1.	Nominal Voltage	kV	
2.	Highest System Voltage	kV	
3.	Leakage Distance	mm	
4.	Power Frequency withstand voltage Wet	kV	
5.	Dry	kV	
6.	Power Frequency Puncture voltage	kV	
7.	Mechanical Strength (transverse)	kN	
8.	Altitude above sea level	m,	
9.	Operating ambient temperature	^{0}C	
10.	Relative humidity (Maximum)	%	
11.	Net weight (Approximate)	kg	
12.	POROSITY		
13.	Applicable Standards		
14.	Previous type test certificate/results provided with the bid	Yes/No	
15.	Routine test certificate provided on delivery of insulators	Yes/No	
16.	Manufacturer's quality manual /ISO 9000 Certification provided with the bid	Yes/No	

17.	Drawings showing dimensions and tolerances of Insulators offered provided with the bid.	Yes/No	

ANNEX A

DEFINITIONS

Crazing: Cracks in the glaze of an insulator

Dunt: A fracture extending through the body, or the body and the glaze, caused by strains set up in the process of manufacture.

Speck: A discoloured portion having a dimension larger than 0.062 inches (1.575 mm)

MANUFACTURING DETAILS	MINIMUM REQUIREMENTS
a) BISCUIT FIRING TEMPERATURES:	1050 °C
b) KILN FIRING TEMPERATURES:	1250 °C
c) SAMPLE SIZE TO BE TESTED	10 %

BODY PREPARATION

Manufacturers must ensure that the Entropy of mixing is achieved in order to ensure all the constant materials making the body are properly mixed

MATERIAL

The porcelain shall be sound, thoroughly vitrified, smoothly glazed and shall be free from dunts, projections and exposed body. There shall be not more than five specks on the insulator. The glazing shall not be relied upon for the insulating properties of the insulator.

GLAZING

The glaze, which shall show no signs of crazing, shall be leadless and shall cover the insulator entirely except for kiln support marks, screw threads.

MECHANICAL DESGN

The design shall be such that stresses due to expansion and contraction in any part of the insulator do not lead to deterioration