

**INDEPENDENT POWER TRANSMISSION OPERATOR S.A.**

**TNPRD/ SUBSTATION SPECIFICATION & EQUIPMENT SECTION**

June 2017

**SPECIFICATION No SS-135/7**

**150 kV METAL OXIDE SURGE ARRESTERS WITHOUT GAPS**

**"ATTACHMENT A"**

INFORMATION BY BIDDERS

1. Type of offered surge arrester : .............………………..

2. External housing characteristics

a. Insulation material of the external

housing : ........…………….………

b. Lightning impulse voltage withstand

(1.2/50μs) : ...........………………….

c. Power frequency voltage withstand, wet : ...........………………….

d. Creepage distance : ...........………………….

e. Dry arcing distance : ...........………………….

3. Number of units of which the surge

arrester consists of : ...........………………….

4. Surge arrester required characteristics

a. Continuous operating voltage (COV), Uc: ........…………….………

b. Rated voltage, Ur : ........…………….………

c. Rated frequency : ........…………….………

d. Class and duty : ........…………….………

e. Designation : ........…………….………

f. Nominal discharge current In (8/20μs) : ........…………….………

g. Residual voltage at steep current

impulse (1/<20μs) at 10 kA,

excluding inductive voltage

contribution : ........…………….………

h. Residual voltage at steep current

impulse (1/<20μs) at 10 kA,

including inductive voltage

contribution (STIPL) : ........…………….………

i. Residual voltage at lightning

current impulse (8/20μs)

at 5 kA : ........…………….………

at 10 kA (LIPL) : ........…………….………

at 20 kA : ........…………….………

j. Residual voltage at switching current

impulse (>30/60μs) at 1 kA (SIPL) : ........…………….………

k. Thermal energy rating Wth : ........…………….…….

l. Repetitive charge transfer rating Qrs : ........…………….…….

m. Rated short circuit current Is : ........…………….………

n. Reference current at 20°C : ........…………….………

o. Range of acceptance of

reference voltage at 20°C : ........…………….………

5. Is the surge arrester equipped with

a surge counter which also includes

a leakage current meter? : ........…………….………

6. Are four (4) support insulators

provided for the installation

of the surge counter/leakage

current meter? : ........…………….………

7. Measuring range of the leakage

current meter : ...........………………….

8. Number of digits of the surge

counter :……..…………….……………

9. Maximum allowable length of cable

between arrester and surge counter :……..…………….……………

10. Maximum allowable length of conductor

between surge counter and earthing grid :……..…………….……………

11. Type of material, shape

and dimensions of the line

terminal : ........…………….………

........…………….………

12. Type of material and shape

of the earth terminal : .............………………..

13. Are all metal fitting of the

arrester of hot-dip galvanized

steel or of aluminum alloy or of

stainless steel? : ........…………….………

14. Are the bolts, nuts and washers

which are needed for the mounting

of the arrester part of the supply? : ........…………….………

15. Are the bolts, nuts and washers

of hot dip galvanized steel or

stainless steel? : ........…………….………

16. Is the surge arrester equipped

with a grading ring? : ........…………….………

17. Type of material of the grading ring : ........…………….………

18. Diameter of the grading ring : ........…………….………

19. Required radial clearance of other metallic

structures from the axis of the arrester,

to ensure correct operation of the arrester : .............………………..

20. Is the surge arrester without or

with enclosed gas volume? : .............………………..

21. Percentage of enclosed gas volume

to total internal volume of arrester

(if applicable) : ...........………………….

22. Is the arrester equipped

with a pressure relief diaphragm?

(if applicable) : ........…………….………

23. Seal leak rate (if applicable) : ...........………………….

24. Internal partial discharge level : ........…………….………

25. Radio interference voltage level : ........…………….………

26. Cantilever strength of the

surge arrester : ...........…………………

27. List of all internal components of

the surge arrester : ...........…………………

........…………….………

........…………….………

……………………………..

……………………………..

28. Technical data of any internal grading

equipment, e.g. capacitors, resistors

(if applicable) : ........…………….………

........…………….………

........…………….………

........…………….………

........…………….………

29. Weight of the arrester : .............………………..

30. Indicate the size of the

earthing lead and the type of material

which shall consist of : ...........…………………

31. Type of silicon rubber used

in the proposed arrester : ........…………….………

32. Is the offered silicon rubber

hydrophobic and resistant to pollution

and UV radiation? : ...........………………….

33. Is the surge arrester suitable for

upright vertical mounting on steel structure? : ...........………………….

34. Lightning impulse voltage withstand

level of the support insulators : ……………………………

35. Does the packaging follow the

requirements of par. XV ? : ……………………………