

DINNTECO INTERNATIONAL S.L.

A/A Mrs. Katia LOPEZ MAROTO

Andorra la Vella, 28th February 2017

SUBJECT: PASSIVE SYSTEM CAPTURE DDCE.

Created in 1996, PT Excelcomindo Patrama PTK (hereinafter PT XL Axiata) is a Telecommunication services operator works in Indonesia. It offers data communication, broadband internet, mobile 3G and 4G communication services. The company has more than 40 million subscribers and more than 26,000 BTS towers throughout Indonesia.

The location of BTS centers is found throughout the country's geography and in many different areas, and among the main problems we face are the protection of electrical, electronic and other equipment against the direct impacts of lightning and its indirect effects, as they are, external induced surges.

During the year 2015, we performed tests to see the effectiveness of different lightning protection technologies in our facilities, specifically installed in February 2015 by ABO MADALEX, device for balancing variable electric fields and electrostatic charge deionized DDCE, manufactured and patented by DINNTECO INTERNATIONAL. In particular, 220 DDCE 100 were installed to protect 220 BTS centers. In March 2015, MONDLYA (Hitachi Critical Facilities Protection Pte. Ltd) installed 315 devices of the DAS Technology systems, Desionizing Lightning Rod SPLINE BALL TERMINAL models in 315 other BTS centers. Finally, in February 2015, ERINDO (LPI) installed 230 STEM devices (Early Streamer Emission), model STORMASTAER in another 230 BTS centers. The results were evaluated until February 2017, with the following results:

- With DDCE devices installed by ABO MADALEX the result is: 0% problems.
- With the SPLINE BALL TERMINAL devices installed by MONDLYA (Hitachi) the result is: 6% problems.
- With the STORMASTAER type ESE devices installed by the company ERINDO the result is: 6.5% problems

Therefore, the result during this 2-year period, with the DDCE devices, has been VERY SATISFACTORY and it has been possible to objectively demonstrate its EFFICIENCY and 100% EFFICIENCY as a Lightning Protection System, since the deficiencies and faults Derived from direct lightning impacts on facilities have been NULL (0% problems)

On the other hand, the affections to the equipment, derived from external induced surges by lightning strikes in near areas, have been REDUCED OF VERY SIGNIFICATIVE FORM, evidencing that the DDCE also acts like PROTECTIVE ELECTROMAGNETIC before the indirect effects that can appear (induced surges External) by such lightning strikes in its surroundings, behaving in this case as a thermal fuse, absorbing part of the energy of the ray in heat by fusion of its internal components.

Therefore, we can conclude that the XL Axiata company is VERY SATISFIED with the DDCE systems installed and with its operational result

Signed Mr. Riyadi Agung Suharto
Position of employee: Manager Power Engineering
XL Axiata