ATAAB ADVISORY NOTE

TRAC Analogue Type Approval Advisory Board

ATAAB Advisory Note Number: AN 03

Subject: Variation of signals supplied by the PSTN

APPLICABILITY

This note is applicable for Terminal Equipment intended for connection to Public Switched Telephone Networks, in addition to:

☒ " CTR 21" (When published)

NOTE: Until CTR 21 is available, reference should be made to ETSI document prTBR 21 (Sept 1997) or, when it is available, to TBR 21.

This note contains specific advice concerning the relationship between the requirements and tests of CTR 21 and the range of network generated signals that will be encountered in practice.

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In consideration of the following:

- The needs of Terminal Equipment Suppliers/Manufacturers and Network Operators are best addressed by a simple and unambiguous approvals regime;

- Extensive testing of Terminal Equipment cannot provide an assurance that a terminal and the network will inter-work in all circumstances;

- That the nominal values for any particular network signal is not the same for all networks and the deviation from the nominal for any particular network signal may also vary.

ATAAB advises the following:

Manufacturers and Suppliers of Terminal Equipment intended to connect to the PSTN are urged: -

– to consult documents such as ETS 300 001 and the declarations provided by network operators under the amended ONP voice telephony directive, and

– to use this information to ensure that their terminals are still capable of inter-working with the network when faced with signals that are towards the extremes of the network tolerances.

As an example attention is drawn to Clause 4.5, which requires "If a ring detect function is provided and enabled, the TE shall be able to respond to ringing signals of 30 V r.m.s. at 25 Hz and 50 Hz with a cadence of 1 s ON and 5 s OFF, superimposed on a 50 VDC feeding voltage.".

1) The ringing voltage stated is the minimum likely to be encountered for most networks. Voltages that are greater than 30V will be found on the vast majority of connections.

2) The ringing frequency can be either 25 Hz or 50 Hz depending on the network to which the terminal is connected and the frequency will also have a tolerance that could be as high as 20 %.

3) The D.C. voltage on which the ringing voltage is superimposed may be greater or less than 50VD.C..

4) The cadence stated was chosen to give the lowest available voltage when aggregated over the duration of cadence. The cadence of ringing signals also has a tolerance, varies from network to network and a different cadence may be used by the network operator to indicate that certain supplementary services have been invoked. In the latter case it may be appropriate for a terminal that would normally be capable of automatically answering the call not to do so (or vice versa).