

TSG-RAN Working Group 1 meeting #9
Dresden, Germany
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TSGR1#9(99)k34

Source: Nortel Networks
To: RAN WG3
Title: Liaison Statement on Changing the NodeB TPC Step
Size after the Start of the Connection

WG1 has studied the effect of the downlink power control step size during soft handover. There is a need to change power control step size due to two reasons:

1- During soft handover, the UE receives the signal from more than one NodeB. This diversity combining results in a smoother downlink channel which can benefit from a smaller step size.

2- A 0.5 dB step size is considered to be optional at NodeB. If an original NodeB is using a step size of 0.5 dB and a new NodeB is added that does not support a step size of 0.5 dB, then a new common step size is recommended to be used since simulations [TSGR1#9-99k02] show that there is a large degradation in performance if two different step sizes are used.

WG1 has also studied the effect of the step size on normal mode (non soft handover) [TSGR1#4-99390] and it was found that different step sizes result in a minimum Eb/No for a given BER depending on the channel type and the speed of the UE. Hence, a change in the UE speed or channel type may require a change in the step size.

WG1 would like to inform WG3 of the need to be able to change the power control step size after the start of the connection.