TSG-RAN Working Group 1 meeting #9 *TSGR1#9(99)l57*
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Source: RAN WG1
To: RAN WG3
Title: Liaison Statement on Changing the NodeB TPC Step Size after the Start of the Connection

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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.