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RAN Working Group 4 (Radio) meeting #16 TSGR4#15(01)0471
Vienna, Austria, 19 – 23 February 2001

Source:	**TSG RAN WG4**
To:	**TSG-RAN WG1**
Cc:	**TSG-RAN WG2**
Title:	**LS Answer on Introduction of Uplink Power Control at Power Control Limits**
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TSG-RAN WG4 would like to thank WG1 for their LS [1] and their information regarding the improved uplink power control at power control limits. WG4 discussed the issue during their meeting #16 in Vienna. While no concerns have been raised concerning the first question regarding backward compatibility, concerns have been raised regarding the second question, or more generally regarding accuracy issues as summarised below:

While WG4 confirms the gain, which could be achieved by using the proposed algorithm in ideal conditions, there are concerns that this gain cannot be realised, if power control tolerances are taken into account. For example, it was noted that the tolerances on absolute UE Tx power measurements are comparatively wide around the maximum UE Tx power (±4 dB for class 4 UEs or +3 dB/ -5 dB for class 3 UEs) and become even wider for lower power levels. Further more it was agreed to be undesirable to cause an increased complexity in the UE in order to provide for power measuring and power setting capabilities that would be significantly more accurate. Therefore WG4 is not convinced that a performance gain could be achieved without unacceptably tightening the accuracy requirements. Furthermore, WG4 is concerned that the probability of a UE being in a situation in which the gain due to the improved uplink power control at power limits could be exploited might be small.

WG4 also discussed the power control algorithm specified in the current TS 25.214, section 5.1.2.6., where it is stated that scaling shall not be applied if a UE operating below -50 dBm receives power up commands. It was concluded that there might be some problems from an implementation point of view.

References

[1] TSGR4#15(01)0159 (was TSGR1#18(01)0171; Boston, MA; January, 15th – 18th, 2001); TSG-RAN WG1; LS on introduction of uplink power control at power control limits.