

How to beat Electromagnetic Compatibility limits?

Challenge submitted by Schweizer Armee – Military Aviation Authority MAA

CHALLENGE QUESTION

How to assure Electromagnetic Compatibility (EMC) below regulation limits for wind turbines?

GOAL

Find a cooperative solution to reduce distances between radio equipment and wind turbines below EMC standards, but still assuring performance of the equipment.

MOTIVATION

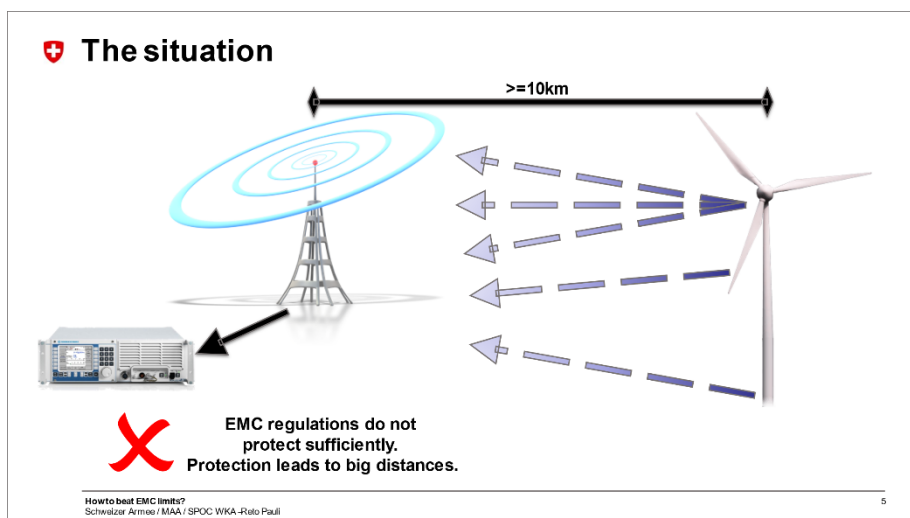
EMC regulations stipulate certain signal attenuation between wind turbines and sensitive receiving equipment. This leads to distances >10 km for proper separation and maintaining performance. These attenuations are however based on worst case assumptions (=regulatory limit) for EMC.

However, most wind turbines do not reach this maximum EMC limit. If this could be taken into account and reliably assured over its lifetime, distances could be significantly reduced, freeing up space and reducing conflict while maintaining equipment performance.

In the densely built-up area of Switzerland this could be a decisive factor for wind energy implementations.

WHO THE CHALLENGE IS SUITABLE FOR

EMC experts, engineers, researchers, students, project planners, cantons, local communities, any other interest group.



EXPECTED OUTCOMES

Ideas on a cooperative approach for assuring long-term wind turbine EMC compatibility below the stipulated limits according to EMC regulations.