

neither a sufficient nor a necessary condition that a numerical simulation is based, at least in part, on technical principles that underlie the simulated system or process.

In coming to its decision, the Enlarged Board also looked at the decision in T 1227/05 (OJ 2007, 574), which had dealt with an application relating to a computer-implemented method with mathematical steps for simulating the performance of a circuit subject to 1/f noise. The solution was based on the notion that 1/f noise can be simulated by feeding suitable random numbers into the circuit model. In the deciding board's view, the simple generation of the random numbers and the possibility of calculating them separately, before the start of the circuit simulation, provided for a resource-efficient computer simulation. In its analysis under Art. 56 EPC, the board explicitly relied on the COMVIK approach, finding that the simulation of a circuit subject to 1/f noise constituted an adequately defined technical purpose for a computer-implemented invention "provided that the method is functionally limited to that technical purpose". In view of the method's functional limitation to the simulation of a noise-affected circuit, the board came to the conclusion that such simulation could be considered to be a functional technical feature. The board also made clear that the metaspecification of an (undefined) technical purpose could not be considered adequate.

In G 1/19 the Enlarged Board, regarding T 1227/05, stated that calculated numerical data reflecting the physical behaviour of a system modelled in a computer usually cannot establish the technical character of an invention in accordance with the COMVIK approach, even if the calculated behaviour adequately reflects the behaviour of a real system underlying the simulation. Only in exceptional cases may such calculated effects be considered implied technical effects (for example, if the potential use of such data is limited to technical purposes). However, the Enlarged Board stated that its role was not to re-assess decision T 1227/05, which was taken in the specific circumstances of the case. It also noted that the board in T 1227/05 did not rely for its decision solely on its findings that the simulated system was a technical system and that the system could only be understood and modelled by relying on technical considerations.

The Enlarged Board in G 1/19 also referred to T 625/11, which concerned a method for establishing by a computer system at least one limit value for at least one operational parameter of a nuclear reactor, which method included a simulation step and resulted in numerical value(s) for one or more limit values for e.g. global power P of the reactor. The board in T 625/11 considered that the relevant questions were the same as in T 1227/05 and ultimately followed the conclusions of that decision, accepting that the calculated limit values for the operation of a nuclear reactor conferred a technical character to the invention. The Enlarged Board agreed with the findings of T 1227/05 and T 625/11 **if they were understood as being that the claimed simulation processes in those particular cases possessed an intrinsically technical function**. However, there were rather strict limits for the consideration of potential or merely calculated technical effects according to the COMVIK approach. The often-quoted criterion of T 1227/05 that the simulation constituted an adequately defined technical purpose for a numerical simulation method if it was functionally limited to that purpose should not be taken as a generally applicable criterion of the COMVIK approach for computer-implemented simulations, since the findings of T 1227/05 were based on specific circumstances which did not apply in general.