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Network Code on Grid Connection of Generators

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IFIEC comments

Code on Grid Connection of Generators

General Comment:

Some Articles exceeds the Code mission (to specify performances of generators) and impose installation comportments (f.i.: prohibits disconnection, imposes P,Q set-points, …)

=> they should be transferred in the future Access Code.

Protections & Control (Art. 9-6-b-1):

Code should impose that RNO & Generator Owner

define objectives, then scheme, then settings

together, with precedence of RNO for Grid protection & impacts issues,

communicating their (direct & homo) minimum Sc-c and branch impedances.

Fault Ride Trough Specifications: (Art.11-3-a-6 & 13-3-a-7)

250msec of 3-fase fault at 0 V is very too high with regard to transient stability of aero-derivative gas turbines. 130 – 150 msec seems a max.

The Code should not permit TSO to impose impossible values.

Existing Installations:

Code specifications are very hard, too hard for small existing generators.

=> Code might define 2 groups of categories A, B, C, …: existing & new.

Code on Grid Connection of Generators

Generation Units connected on Industrial Power Networks (CDS or private) :

1. **Islanding Industrial Network (portion) with Generator & Critical loads**

   Must be authorized for security reasons of the industrial site.

   ⇒ Code (f.i. Art.7-1-a-1 & 10-2-2): OK if "RNO may impose disconnection"

   but: if suppressing "unless national law gives TSO authority to decide".

1. **Industrial Networks = specific comportment :**

   Asynchronous motors = 90 % of load => what are V range & Q need to permit the start of a 12MW motor, when motor reacceleration after V drop?

   Network design and impedances, but also V control must be specific.

   Code : OK while RNO may impose control parameters, set-points, …

   => Code modification: sentence so as "unless national law gives TSO authority to decide …" should be suppressed or replaced by "unless, for connection on not-industrial power network, national law gives TSO authority to decide …" .

3. **Industrial plant Generator = either integrated in process OR cogenerations**

   In normal situation, P is fixed by process/steam needs, NOT by SO !

   ⇒ Art.8-2 ; Art.9-2-a ; Art. 12-2-a) to be modified.