Network Code on Emergency and Restoration
DSO association comments on LDD Requirements

Sébastien Grenard,

Brussels, January 8th

LFDD Requirements - Proposed Table

- Existing control-command systems have been developed to match the need of each country – **new technical developments would be needed to implement this requirement**

- The proposed timeframe **(5 years) is too short**

- **The costs involved are extremely high** (assessment on-going, preliminary results for France only: 1Bn euro)

LFDD Requirements – Proposed table

The requirement does not seem justified because:

- **Current schemes have proven reliable** in most countries in the recent past (November 2006). Is fine tuning really worth the cost? What are the benfits of the fine tuning?

- **The cost** of changing existing schemes quickly most likely **outweights potential benefits.**

- The **system inertia will not decrease dramatically** in the future (there are still large thermal and hydro power stations)

LFDD Requirements – Paragraph 8

a) Ensure no intentional time delay for Low Frequency Demand Disconnection is set additionaly to the operating time of the relays and circuits breakers => **delays can be useful to make sure relays react to a real event**

b) Ensure to minimise the total disconnected installed capacity of Power Generating module connected directly to its distribution system => **« ensure to minimise » could be misleading and should be reframed**

c) Ensure that this scheme does not lead to power flow deviation and voltage deviation outside Operational Security limits. => **In Emergency situation, normal limits do not apply.**

Comments on ENTSO-E's study

- Applying the LFDD requirements on the Nov 2006 event has not been performed. The performance would only be "yellow" according to the acceptance criteria. With the proposed scheme, less load would have been shed at 49Hz.

- Restoring the frequency within the range [49.9Hz, 50.1Hz] has been chosen as the criterion to assess the efficiency of LFDD schemes. According to this criterion and according to the frequency recording of Nov 4th 2006 event, the western European LFDD scheme was not efficient during this event. Is it really ENTSO-E's view on this event?

Questions on ENTSO-E's study

- What is the system inertia foreseen by ENTSO-E in each of its scenarios?

- If the scenario are looking into the future, why don't they take into account requirements from other codes (such as RfG)?

- How likely is a 60% imbalance in the power system to happen in the future? Why do we consider all imbalances levels with the same probability of occurrence? (Par. 6.2 states that small contingencies are much more probable)

Questions on ENTSO-E's study

- The current LFDD scheme seems to be fine (according to Par 6.1). Is the fine tuning really worth the cost?

- Several of the UFLS plans simulated do not seem realistic: the frequency step between each step (100mHz) is very small. Current relays (in France) have an accuracy of 100mhz.

- Why 30mHz for relay accuracy? Which standard reference?

Questions on ENTSO-E's study

- Did the study only look at technical aspects or did ENTSO-E have also estimated the costs associated with the new requirements?

- Looking for an optimum should consider for technical constraints (and not only be theoritical)

Thank you for your attention

Contact:

Carmen Gimeno: cgimeno@geode-eu.org

Marc Malbrancke: marc.malbrancke@cedec.com

Jacobo Alvarez: jalvarez@eurelectric.org

Florian Chapalain: florian.chapalain@edsoforsmartgrids.eu

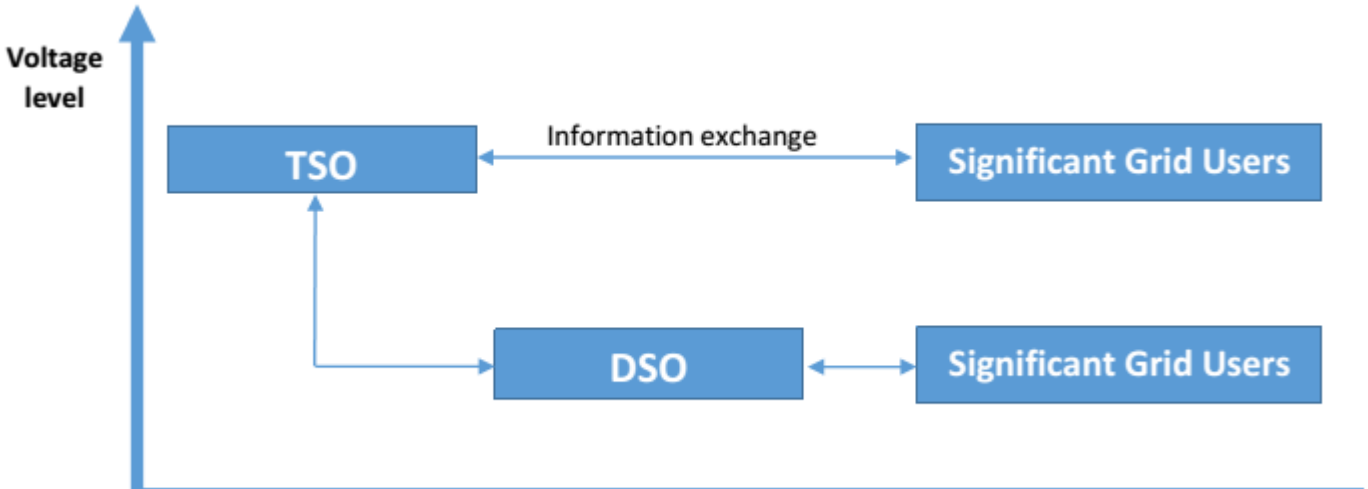
MAIN COMMENTS ON EMERGENCY AND RESTORATION NETWORK CODE

Ensure consistency with previous network code and use clear wording

- Most requirements refer to the RfG and DCC code, more references should be added to the OS.
- Avoid using sentences such as “the TSO should *consider*…” => legal uncertainty
- Align key definitions with other network codes, most importantly “Significant Grid User”

Defence plan preparation, execution and restoration require cooperation between TSOs and DSOs

- According to the third package TSO and DSO both have the responsibility to maintain system security
- TSOs should not only consult DSOs, but agree with them on emergency procedures
- Limited coordination will translate into higher black-out risk



Should type A generators be covered in this code?

- Building the infrastructure to control type A generators, as planned in this code, would be very costly.

- The current requirements contradict the requirements included in the NC OS [*I am looking into both codes to find out where is the contradiction*]

- DSO associations are willing to start a dialogue to determine how type A generators should behave in the future.

Detailed compliance testing rules should be decided at National level

- For Low Frequency Demand Disconnection relays, different technologies are used and should not be treated differently.

- Decision on compliance testing should remain national