

SP ENERGY NETWORKS

May 2020

**Demand
Reduction Process Update
for Distributed Generators**



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Demand Reduction process update for DG customers

For the attention of Distributed Generation customers on the SPEN network

- As a consequence of COVID-19 lockdown, there has been an unprecedented reduction in demand on the GB electricity network.
- As a result, The National Grid Electricity System Operator (NGESO) has developed a new process for distributed generation (DG) customers to contract with them to provide services to manage this situation.
- All local DNOs may also be required to undertake emergency disconnections should the NGESO be unable to contract with enough generators to reduce output.

This fact sheet provides DG customers with an overview of how this process will be effected, should it be required over the upcoming period of unprecedented low demand (Summer 2020).

Urgent Grid Code Change GC0143 - Last resort disconnection of Distribution Generation (DG): ¹Whilst the requirement for this change, and communication around it, is the responsibility of National Grid (NGESO) as the GB Electricity System Operator, SP Energy Networks (SPEN) is aware that our distributed generator customers may have several questions regarding this urgent change and the potential impact on them. This fact sheet is intended to provide some additional information directly, provide links to additional NGESO online resources, and to help provide additional clarity for our own customers.

CONTEXT: NGESO has communicated a consequence of the current Covid-19 shut down is that there has been an unprecedented reduction in GB Transmission System net demand. Over the 2020 Easter bank holiday weekend this reached a new record low of 15.2GW vs prior historical minimum of 15.8GW, and the ESO forecasts that from the May Bank Holiday weekend and through the summer months new record low net Transmission demands are likely to occur (e.g. on Thursday 7th May the ESO forecast minimum for overnight Sat 9th - Sun 10th May is predicted to be 14.4GW, and current forecasts are for lower net transmission demands across the summer if the lockdown continues).

IMPACT ON THE GB ELECTRICITY SYSTEM: One impact of these forecasted record low net Transmission demands identified by the ESO is that in order to match electricity demand and generation, and to continue to ensure GB electricity system security, then some distribution connected generation will need to reduce its output during periods of particularly low demand.

NGESO SOLUTION: NGESO has developed a new Optional Downward Flexibility Management (ODFM) product for distributed connected generators >1MW who currently do not participate in the balancing market. More detail can be accessed via the following link:

¹ Link to grid code information [GC0143 modification webpage](#)



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<https://data.nationalgrideso.com/plans-reports-analysis/covid-19-preparedness-materials>

Generators who enter ODFM contracts with NGENSO to provide this service will receive day-ahead instructions to reduce their outputs (via email), and if they deliver this ODFM service they will be paid an agreed market price.

NGESO will liaise with SPEN to check the ODFM of individual generators has no impact on the security of the local distribution network and following this assessment the NGENSO will liaise directly with the contracted ODFM generators to dispatch their output.

NGESO has communicated that it is confident over the 9th / 10th May weekend this new ODFM product along with the existing Balancing Market generators should provide NGENSO enough capacity to balance demand and generation.

NEED FOR LAST RESORT EMERGENCY DISCONNECTION OF DG: Should NGENSO not have enough flexibility via the BM or new ODFM they will issue an NRAPM (Negative Reserve Active Power Margin). The purpose to the NRAPM is to seek further generator flexibility and alert Network Operators and generators of the increased risk, as a last resort, Emergency Disconnection of generation may be required. The NRAPM will include the volume of national or localised MW flexibility required and risk time period. NGENSO will update the NRAPM at regular intervals with the latest information based on revised demand and generation forecasts. NGENSO has been clear and does not envisage requiring Emergency Disconnection of distribution connected generation this weekend (9th/10th May) however believe it prudent to have this emergency capability as a contingency during this unprecedented period of the Covid-19 crisis. As a result, the change to introduce the Emergency Disconnection changes has gone through a fast-tracked process which will give the ESO the power to instruct all Distribution Network Operators (DNOs) to perform Emergency Disconnections of distribution connected generation.

ACTING UPON AN EMERGENCY DISCONNECTION INSTRUCTION: Depending on the nature of the NRAPM, national or localized, will influence how NGENSO issue any Emergency Disconnection instructions. For a national NRAPM all DNO's will be given a MW volume to disconnect across their license area. A localized NRAPM can only be resolved locally and therefore will be more specific to a DNO and Grid Supply Points. Emergency Disconnection instructions will be issued by NGENSO to each DNO in 50-70MW blocks and expected to be delivered within 30 minutes of being instructed. NGENSO will issue Emergency Disconnection instructions equitably across all DNO license areas. Subsequent 50-70MW generation Emergency Disconnection blocks are possible if NGENSO require more generation disconnected to balance the GB system.

This means that:

- There is very limited opportunity for SPEN to contact generators ahead of disconnection
- SPEN shall Emergency Disconnect DG via remote means using tele-control from their Control Centre's
- SPEN shall contact all generators impacted by an NGENSO Emergency Instruction ASAP following disconnection
- SPEN shall communicate with impacted any NGENSO updates ASAP during any disconnection period



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- SPEN shall contact all Emergency Disconnected generators prior to re-energisation

SPEN are highly conscious that Emergency Disconnection for any generator will be disruptive however SPEN are obligated to act upon all Emergency Instructions at very short notice to avoid potentially much wider disruption to our own customers and customers across GB at this time of national crisis.

SELECTION OF GENERATORS TO BE DISCONNECTED: SPEN will be unable to indicate with any certainty which generators could be Emergency Disconnected as this is dependent upon many factors including the nature of the NGENSO instruction and the current output of our generator customers.

SPEN has developed robust processes to minimize the impact of any Emergency Disconnection disruption to our distribution connected generator customer with the following principles in mind:

- Targeting the required MW reduction by Emergency Disconnecting the smallest number of sites possible
- Where possible avoid multiple Emergency Disconnections to the same generators in subsequent emergency instructions (where this can be achieved and be consistent with the Emergency Instruction)
- Generator Emergency Disconnections will not include connections to mixed purpose sites where the main use by the customer is non energy based industrial or commercial purposes

Should any generator require further information please contact the SPEN Control Centre through the contact number stated in your Site Responsibility Schedule. (SRS)

