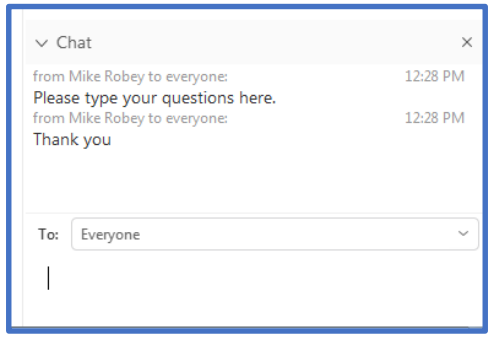
Your Questions

- Webinar participants have been set to ‘listen-only’ mode to aide the smooth running of the webinar.
- To raise your questions: please type questions in the ‘chat’ function of this webex meeting
- We will review questions and pick them up at appropriate points during the webinar, where possible, or at the end of the presentation.
- We have also prepared some questions for you



Accelerated Loss of Mains Change Programme

ena energy networks association

nationalgridESO

WEBINAR WILL BEGIN AT 13:05

Friday 27 March 2020

Graham Stein

National Grid ESO

Paul Munday

Scottish & Southern Electricity Networks

Mike Kay

National Grid ESO

https://www.energynetworks.org/electricity/engineering/accelerated-loss-of-mains-change-programme.html

Agenda

Item	Presenter
Welcome	Graham Stein
Introduction - The Accelerated Loss of Mains Change Programme - Progress to date	Graham Stein
Eligibility	Mike Kay
How to apply	Paul Munday
How to implement changes	Paul Munday
Resources to support your application and implementation of changes	Mike Kay
Timetable	Graham Stein

Programme website https://www.energynetworks.org/electricity/engineering/accelerated-loss-of-mains-change-programme.html

Application portal http://www.ena-eng.org/ALoMCP

ALoMCP: Progress to date

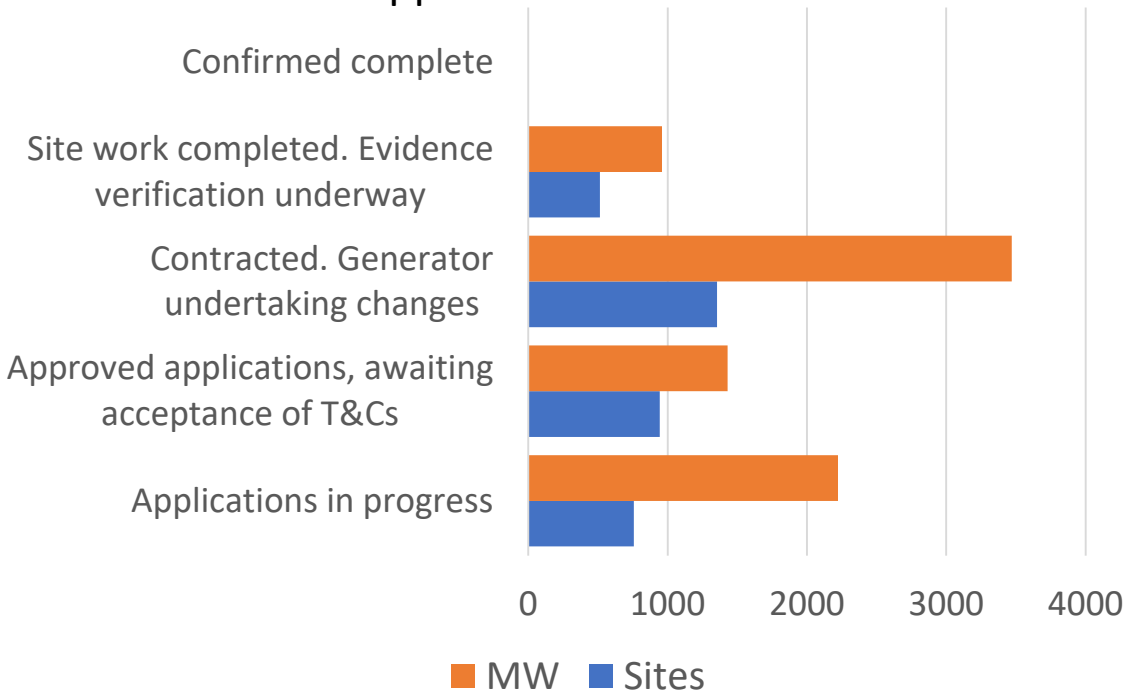
Accelerated Loss of Mains Change Programme

ena nationalgridESO

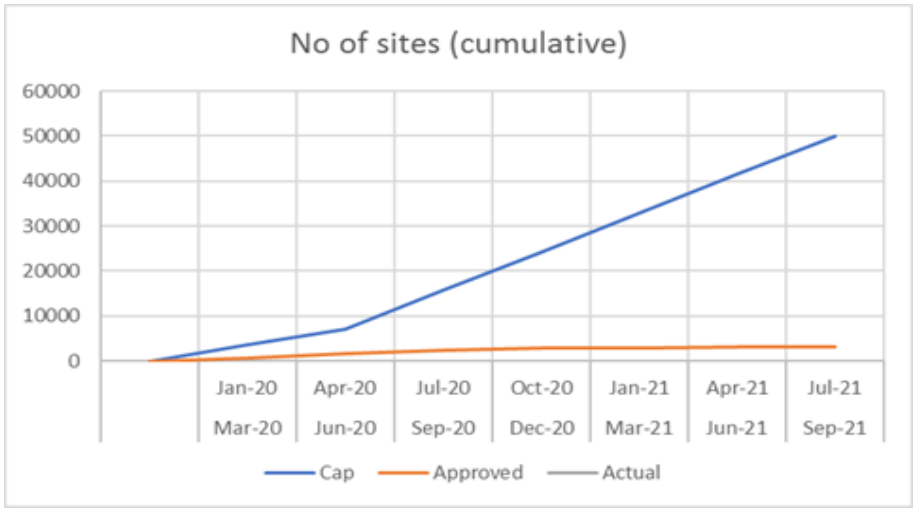
Accepted Applications

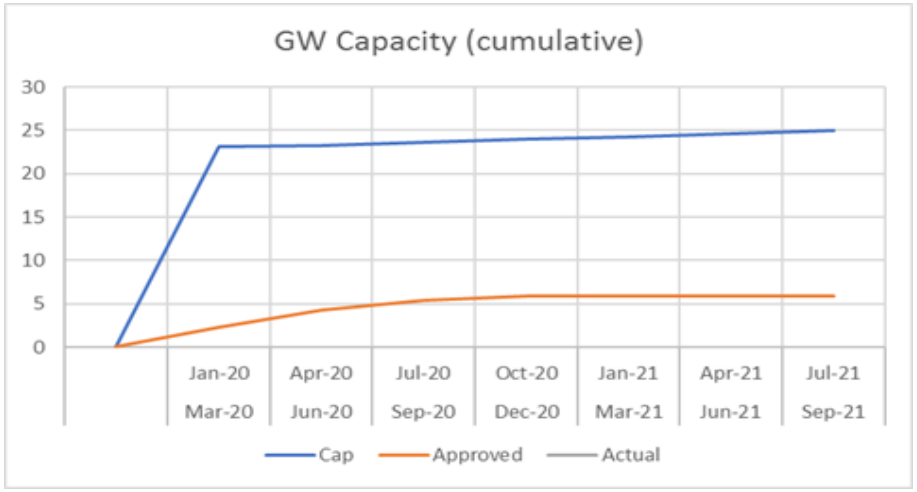
Window	No of applications	Generation applied	Generation accepted	Provider Payment (£m)
W1	1933	5.48GW	4.3GW	6.8
W2	1388	2.25GW	2.2GW	5.3
Total	3321	7.73GW	6.5GW	12.1

Application Workflow



Application Outcome





Coronavirus pandemic response

- Due to the disruption caused by the Coronavirus pandemic, including the impact of measures taken by the government and businesses to protect the wellbeing of the public, the Programme has **suspended delivery of the ALoMCP.**
- Under the current guidance the Programme is currently not classified as essential work, and DNO staff cannot plan site attendance for the purpose of witnessing and audit where these would have been required by the Programme. It is not possible at the moment to conduct this work remotely.
- The Programme will issue guidance for in-flight projects as soon as possible. There is no plan to suspend payments to applicants who have already completed their work and these will be processed as is practicable under current working arrangements.
- The ALoMC Programme will keep the situation under review and update this response as the situation changes.
- Delivery dates of accepted applications will be relaxed and delivery timescales and window dates will be reviewed and revised in the light of Government and Regulatory direction and as information becomes available.
- Generators, their agents and contractors are reminded to follow all government guidance with regards to travel and work restrictions.

Eligibility

- Generation commissioned before February 2018
- Generation of all types, eg synchronous, wind farms, solar PV
- Where RoCoF or vector shift protection is used, either in separate G59 relays or within the generation equipment itself (eg including inverters)
- Applies to all generation of any size above domestic scale – so anything of greater than about 3.6kW – right up to 50MW
- The following are not eligible:
  - Standby generation
  - Generation >50MW or transmission connected
  - Generation that has already been converted from VS to RoCoF
- It is the owner of the generation who has the responsibility, and is eligible for payment, but the Programme will deal with the owner's agent

How to Apply

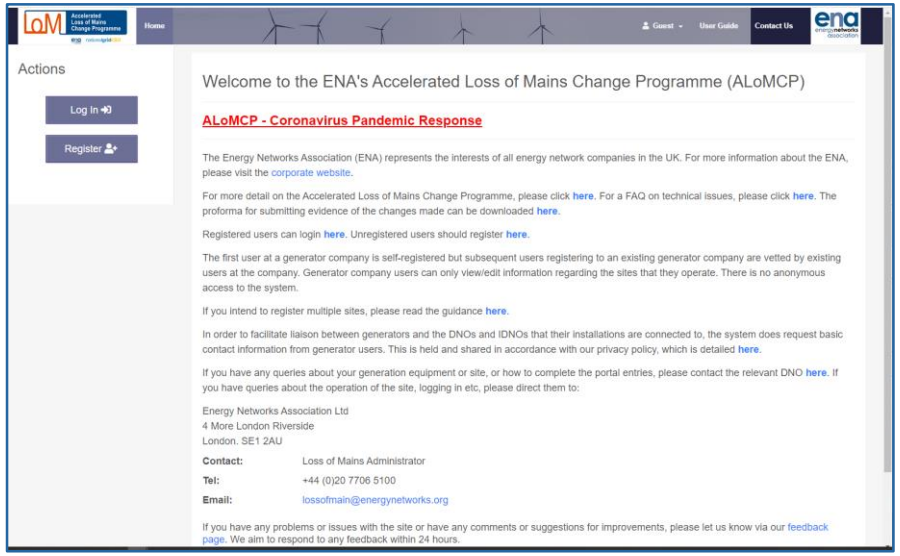
Programme website

https://www.energynetworks.org/electricity/engineering/accelerated-loss-of-mains-change-programme.html

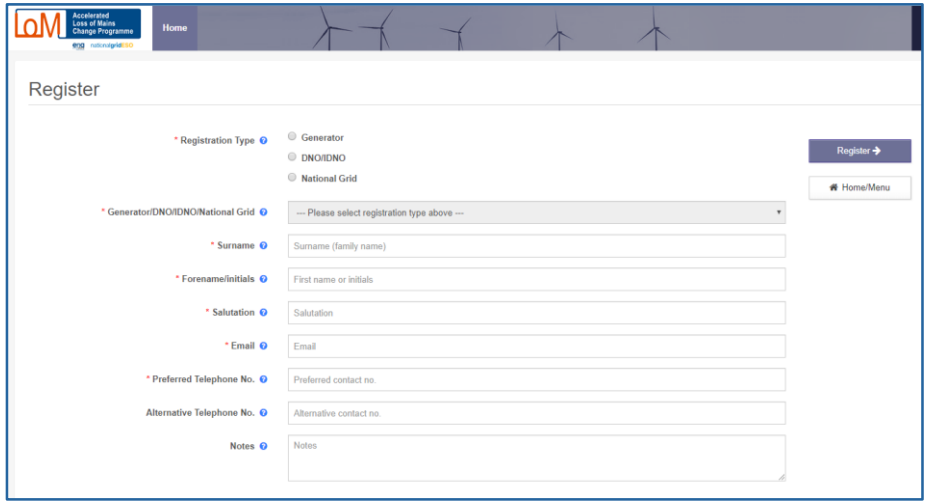
Application portal

http://www.ena-eng.org/ALoMCP

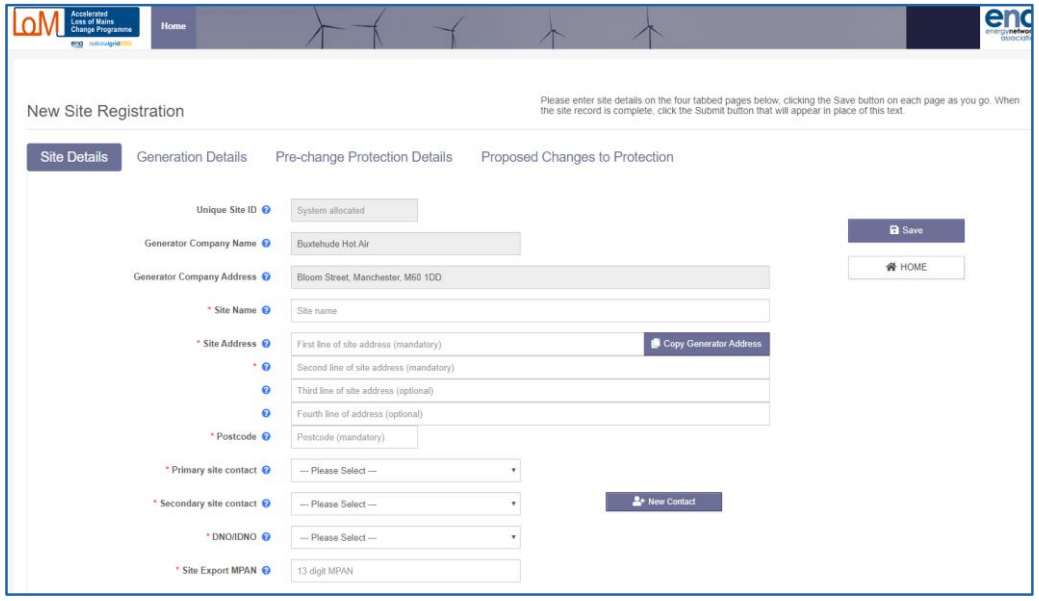
Home Screen



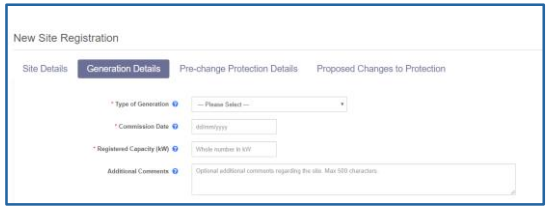
Registration



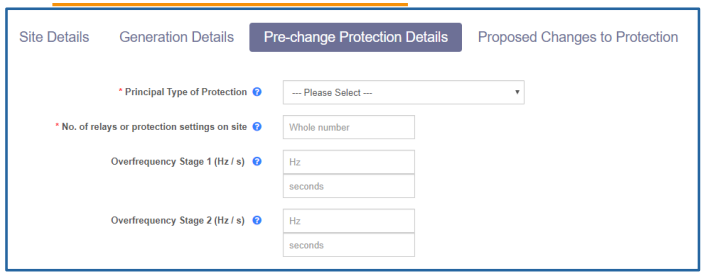
New Application – Site Details



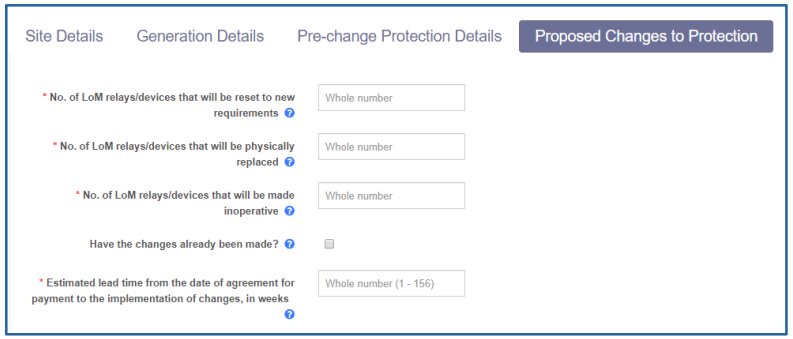
New Application – Generation Details



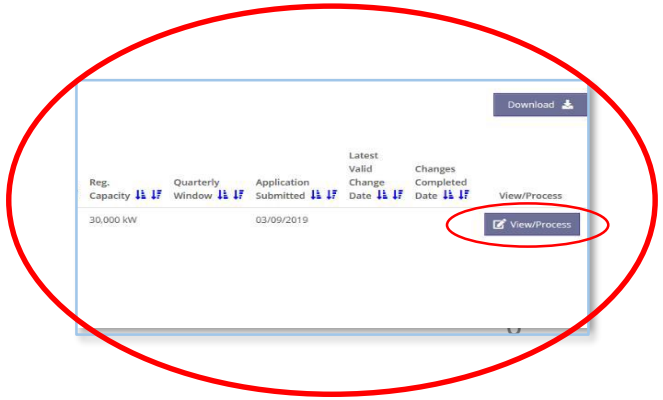
New Application – Pre-change Protection Details



New Application – Proposed Changes in Protection



Scroll to the right



Changes to applications

‘Material Change’ where an application will need to be re-assessed by National Grid before funding can be agreed

- Change of any number of relays from reset to replace
- Increase in the number of devices to be reset/replaced
  - UNLESS the increase relates to settings changes only and the £4k cap has already been reached
- Any other change that may reduce the benefit of changes at a site, such as;
  - Reduction of the registered capacity
  - Change in Generation Technology
  - Change in current LoM protection type

In these cases it will be necessary to delete the current application and for the generator to submit a new application.

‘Allowable change’ where the portal application can remain as it is and the record of changes can be ‘corrected’ at the end of the process by NGESO/DNO/Generator

- Change of any number of relays from replace to reset
- Reduction in number of devices being reset or replaced
- Any change that does NOT reduce the benefit of changes made at a site

Programme website https://www.energynetworks.org/electricity/engineering/accelerated-loss-of-mains-change-programme.html

Application portal http://www.ena-eng.org/ALoMCP

ALoMCP Portal – Application Status

Portal Status and Meaning	Action Required by Generator
DNO/IDNO to submit data to NGESO Application submitted by Generator and being checked by DNO	Await results of NG assessment – closing date of application windows can be found in Payment Process Specification Table 1. **Changes can be made by generator to application at this stage**
DNO/IDNO to resubmit data to NGESO Application being checked by DNO following query from NG or change by Generator	As above
NGESO analysing data Application submitted to NG by DNO and will be included in next NG assessment	Await results of NG assessment – expected provider results day can be found in Payment Process Specification Table 4. **Changes cannot be made by generator to application at this stage, however application can be returned to allow changes**
Awaiting initiation by DNO/IDNO Application selected for funding by NG and DNO to trigger confirmation email	No action required, email confirmation of selection to be expected. **'Material' changes to the application can no longer be made from this point.**
Awaiting generator acceptance of terms and confirmation of completion date Generator yet to accept terms, including latest valid change date	Generator required to enter a *Planned Date of Changes* on the Portal, by doing this they enter into contract to complete changes. Date can be an estimate, but must be earlier than the *latest valid LoM change date*. Any date is subject to DNO agreement where witnessing is required
Generator undertaking changes Generator has accepted terms and is due to complete works before latest valid change date	Generator to enter *Date Changes Completed* on Portal once works complete and evidence gathered. Evidence to be emailed to DNO contact details provided on ENA ALoMCP Page
DNO/IDNO acceptance/witness/payment processing Generator has completed works and submitted evidence, DNO to review evidence and arrange sample site visit and/or payment	Await confirmation from DNO that evidence is accepted and if Sample Site Visit is required. DNO to arrange payment once confirmed. Generator may be required to provide an Invoice and Letter of Authority.
Complete All works and auditing completed and recorded. DNO has paid generator.	No action required, contract effective until date on which the Protection Requirements become mandatory under the Distribution Code.

Submission of Evidence

Evidence should be sent to the DNO by email and include;

- Timestamped photographic evidence showing the LoM protection device and its settings both prior to and after the change
- Timestamped photographic evidence of any other relevant works on site (eg disconnected tripping circuits etc)
- Printouts, screenshots or other details of protection device settings or setting files
- Records of tests undertaken and/or any associated test certificates

Where possible attachments containing evidence should be named to indicate what they contain, photos should be limited the requirements above and can be incorporated into the ALoMCP proforma for ease.

Sample Site Visits (SSV)

Requirements concerning the number of SSVs to be completed and what should take place during the visit are detailed in the Delivery Assurance Policy. For example;

Site capacity	Site type	Sampling rate
1MW or above	For Vector Shift (VS) protection Solar sites For Rate of Change of Frequency (RoCoF) protection All sites excluding solar generation, diesel generation, and gas generation that does not form a part of a CHP system	56%

Technical queries

- Relay Replacement Funding
  - Window 1 included applications for relay replacement where disablement of LoM Protection expected, ie on non synchronous or doubly fed induction generation units.
  - Relay replacement not funded for these sites on applications made from 01/02/2020.
- Inverters
  - Changes to inverter settings may be required
  - Evidence proforma includes Inverter information
  - Inverter manufacturers contacted, open letter published on ENA ALoMCP Page here

If in doubt…

- Technical FAQ
  - Updated regularly on ENA ALoMCP Page here

	Type of LoM settings in the inverter			Frequency protection settings in inverters
	VS or Non-compliant RoCoF	Non-RoCoF/VS LoM (eg frequency shift)	None at all	
Protection Relay on site	In preferred order: 1. Set compliant RoCoF* 2. Disable	Nothing to do	Nothing to do	In preferred order: 1. Disable 2. Set wider than G59 3. Set to G59 or G99§
No protection relay (ie "type tested" inverters)	In preferred order 1. Set compliant RoCoF* 2. Disable	Nothing to do	This combination should not exist	Set as G59 or G99§

Inverters:

Manufacturer	Status
ABB	ABB state that their inverters do not use RoCoF or VS loss of mains. ALoMCP believes there is no adjustment to make on ABB inverters. It is the owner's responsibility to confirm this. ABB have published this information and a list of their inverter types.
AEI	No response from manufacturer
Danfoss	Taken over by SMA. Awaiting SMA information.
Enercon	State that inverters do not use VS or RoCoF. However many (but not all) Enercon devices have a separate relay which provides LoM functions and will need to confirmed compliant and/ or reset by a competent person. Enercon can be contacted to advise on what is required at each installation.
Fronius	Fronius inverters do not use RoCoF or VS loss of mains. ALoMCP believes there is no adjustment to make on Fronius inverters. It is the owner's responsibility to confirm this.
Ginlong (Solis)	Ginlong inverters do not use RoCoF or VS loss of mains. ALoMCP believes there is no adjustment to make on Ginlong inverters. It is the owner's responsibility to confirm this. Ginlong have published this information.
Goodwe	Awaiting information from manufacturer
Growatt	Awaiting information from manufacturer
Huawei	Huawei confirm that RoCoF switched off by default, and no VS. Owners will need to confirm that RoCoF remains switch off, or is set to correct values. Waiting to be confirmed by Huawei
Power Electronics	The manufacturer has confirmed that RoCoF setting is an option, and that vector shift is not used. All units for GB are thought to have been shipped with RoCoF set to off. The manufacturer has confirmed that it is possible to confirm on site by interrogating the inverter – please contact the manufacturer for details. It is the owner's responsibility to confirm the compliance of these inverters with G59.
Power One Aurora	Taken over by ABB – but not yet included in ABB information.
Refusol	No response from manufacturer
Schneider	Awaiting response from manufacturer
Siemens	Awaiting response from manufacturer
SMA	SMA states that its inverters have not used RoCoF or VS loss for of mains. Some SMA badged inverters (originally made by Danfoss) do have RoCoF settings. Currently awaiting further information from SMA. ALoMCP believes there is no adjustment to make on SMA inverters (apart from the ex-Danfoss models). It is the owner's responsibility to confirm this. SMA have provided relevant information for owners of SMA inverters here.
Solar Edge	SolarEdge photovoltaic inverters connected under G59 do need to be updated with new settings. This can be done by the original installer or any SolarEdge agent. SolarEdge will be contacting owners of affected equipment about these changes. Domestic type inverters connected under G83 are not affected by the programme and need no changes
Solarmax	No response from manufacturer
Sungrow	No response from manufacturer
Sunways	Models NT10000, 11000, 12000 EU should be set by default to GB in which case RoCoF and VS settings are believed to be deactivated. It is the owner's responsibility to confirm this.
Tesla	TBC
Zeversolar	Zeversolar is owned/managed by SMA. SMA states that Zeversolar inverters have not used RoCoF or VS loss for of mains.

Resources

- Two key websites:
  - The Portal https://www.ena-eng.org/ALoMCP/
    - A detailed user guide for how to complete the information requested in the portal
    - A general guide to the overall Programme
    - A blank copy of the evidence proforma (which needs to be returned to claim payment)
    - A technical FAQ
    - Information on inverters
    - Information for contractors etc providing services to multiple sites/owners
  - The Programme webpage https://www.energynetworks.org/electricity/engineering/accelerated-loss-of-mains-change-programme.html
    - This contains key formal documentation:
      - A copy of the formal terms and conditions for participating in the Programme
      - Payment Process Specification
        - Eligibility and process
      - Delivery Assurance Policy
        - Evidence of compliance and its assessment
      - NGESO's Procurement Methodology and Programme Reports
      - Procedural and Technical FAQs

Registered DNO	Initial Email address
Electricity North West Ltd	ALoMCP@enwl.co.uk
Northern Powergrid	G59protectionsettings@northernpowergrid.com
Scottish & Southern Electricity Networks	G59protectionsettings@sse.com
SP Energy Networks	G59protectionsettings@spenergynetworks.co.uk
UK Power Networks	G59protectionsettings@ukpowernetworks.co.uk
Western Power Distribution	ALoMCP@westernpower.co.uk

Registered IDNO	Initial Email address
Eclipse Power Networks Limited	enquiries@eclipsepower.co.uk
Energetics Electricity Limited	electricityinfo@energetics-uk.com
Energy Assets Networks Limited	controlEAN@EnergyAssets.co.uk
ESP Electricity Limited	ESPEGeneration@espug.com
Fulcrum Electricity Assets Limited	enquiries@fulcrum.co.uk
GTC	G59protectionsettings@gtc-uk.co.uk
Harlaxton Energy Networks Limited	info@harlaxtonenergynetworks.com
Independent Power Networks Limited	G59protectionsettings@gtc-uk.co.uk
Leep Electricity Networks Limited	REllison@leeputilities.co.uk
Murphy Power Distribution Limited	mail@murphygroup.co.uk
The Electricity Network Company Limited	G59protectionsettings@gtc-uk.co.uk
UK Power Distribution Limited	newconnections@ukpowerdistribution.co.uk
Utility Assets Limited	enquiries@utilityassets.co.uk
Vattenfall Networks Limited	UK-networks@vattenfall.com

Current Timetable

Event	Deadlines
Webinar	27 March 2020
Application deadline for window 3	12 May
DNO Verification checks	26 May
NGESO Assessment	09 June
DNO notify Applicants	23 June
Applicants confirm terms	+ 10 days after receiving notification from DNO

Note: All dates are subject to review and confirmation in light of the current Coronavirus pandemic

Thank you for joining our webinar

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Application portal	http://www.ena-eng.org/ALoMCP