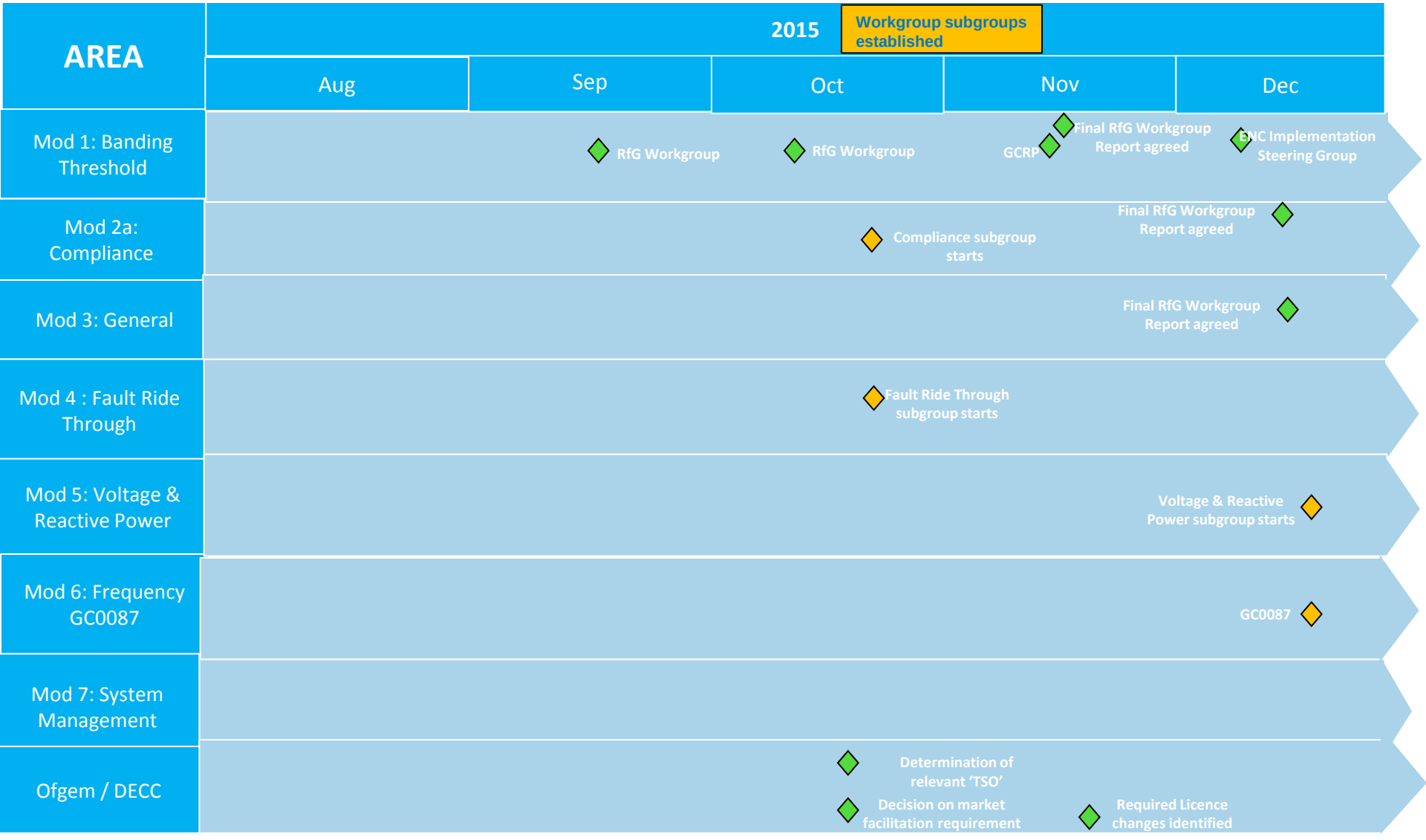
nationalgrid

RfG Plan On a Page



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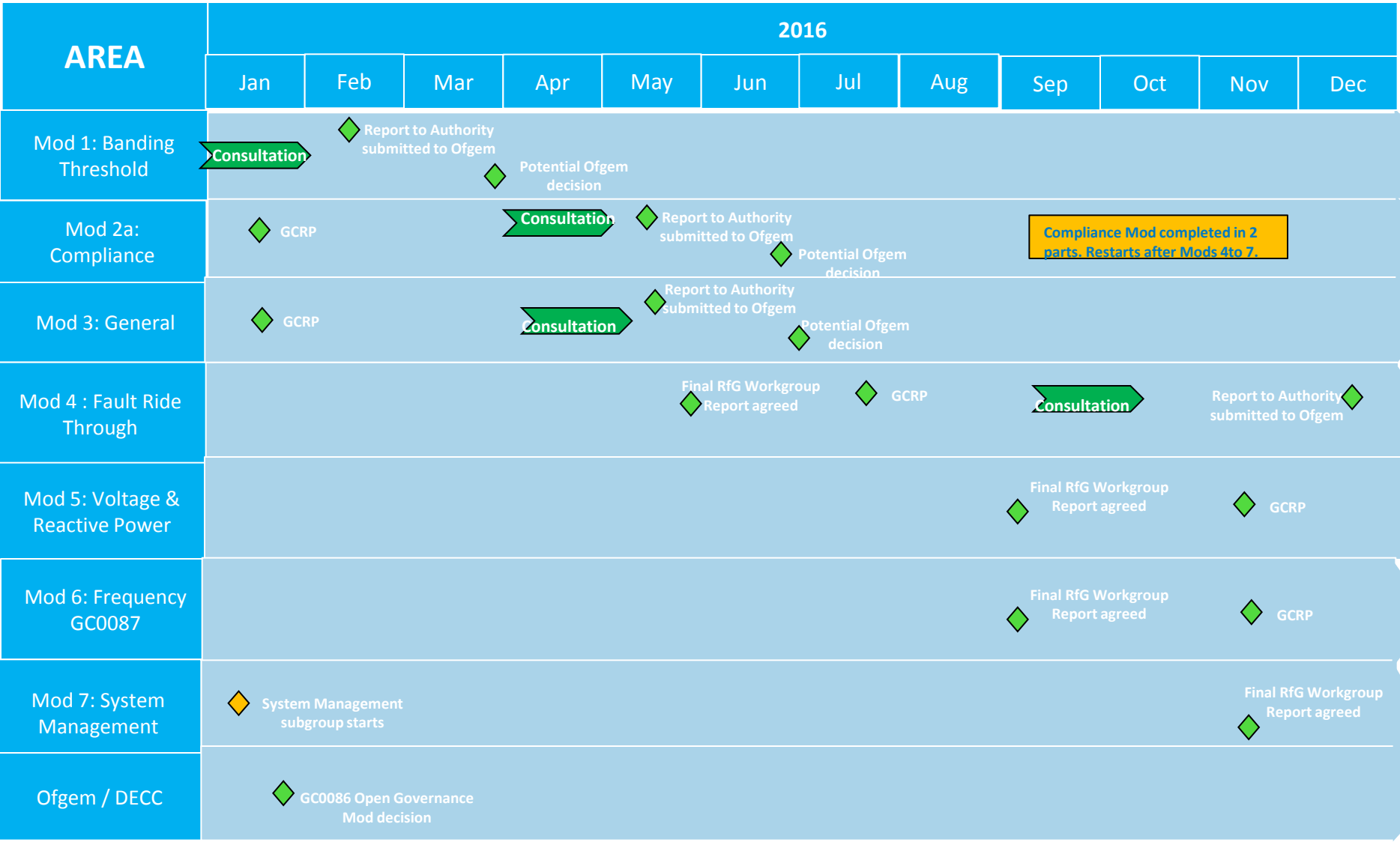
RfG Plan On a Page



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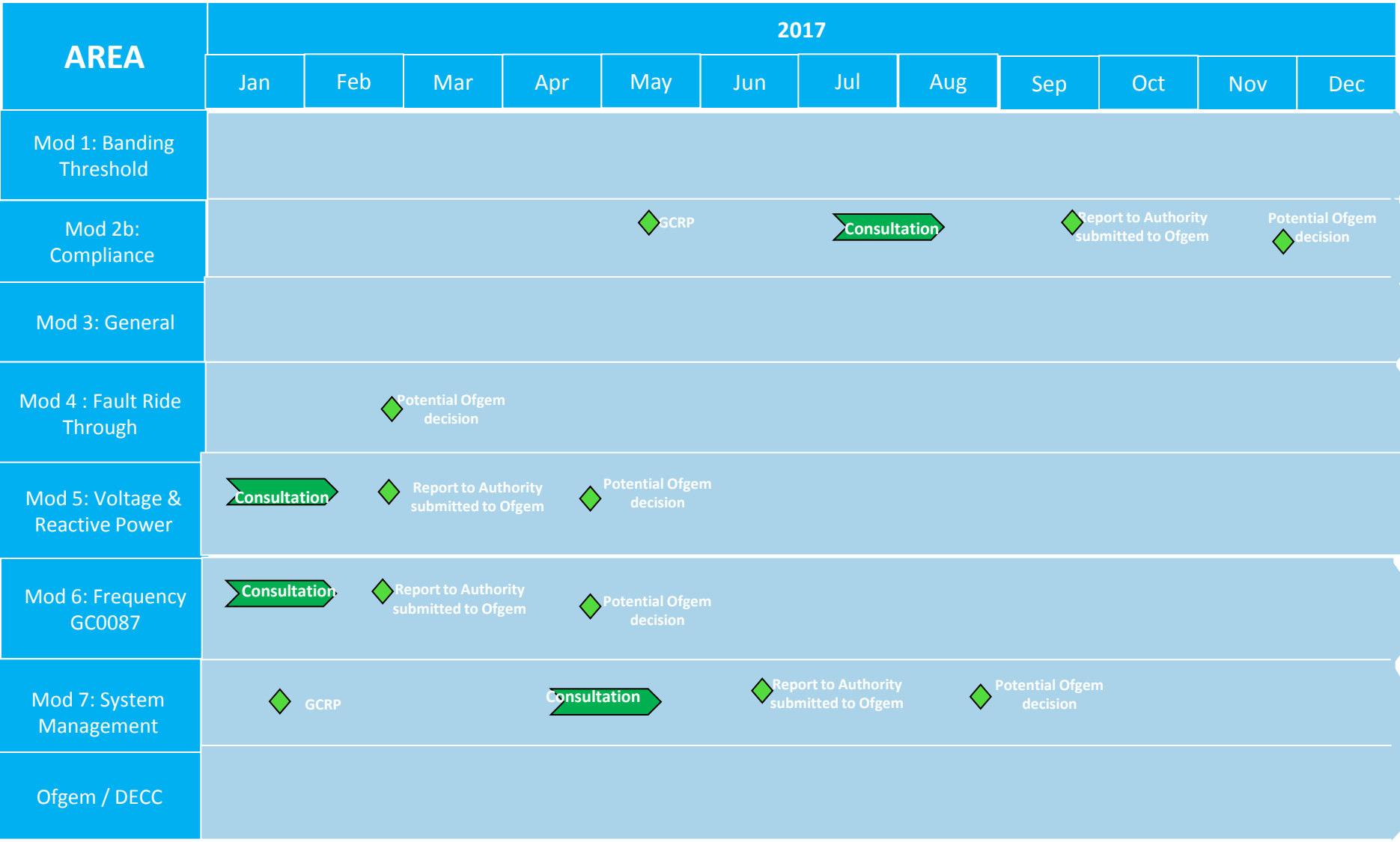
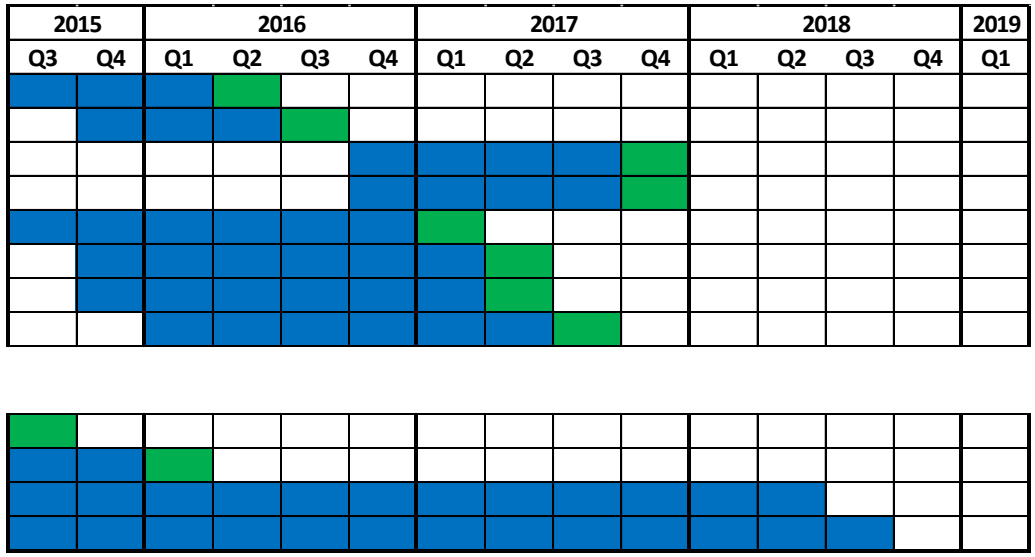
RfG Plan On a Page



RfG Modifications Timeline

Implementation Mods		Dependencies	On-going related GC Mods
1	Banding	X	
2A	Compliance	1	
2B	Compliance	1;4-7	
3	General	1	
4	Fault Ride Through	1	GC0062
5	Voltage + Reactive Power	1	
6	Frequency	1	GC0079; GC0087
7	System Management	1;6	



Enabling/Related workstreams

X Ofgem/DECC Member States Decisions
GC0086 - Open Governance
HVDC
DCC

Key

Workgroup Output
NRA Decision

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Project Plan Modification Groupings

Mod 1 - Banding

> Banding thresholds levels
> Legal text to apply into the codes
> Link to licences
> CBA + public consultations
> Future changes process

Estimated Completion Date: Q1 2016

Mod 2 – Compliance

> Type B/C/D - testing - validation of models (RJW: Provide article/clause - note on duplication)
> All ONs
> Simulation/Testing (SPGMs; PPMs)
> Derogations*

Estimated Completion Date: Q2 2016

Mod 3 - General (rename 'Scope/Definitions'?)

> Definitions
> Scope:
    > New vs Existing
    > Exclusions
    > Retrospectively
        > Application to heavily 'modified' existing generators
        > Public consultations process (include or not?)
    > Emerging Technologies carve out
> STC changes (Offshore?)
> CBAs (above + derogations)*

Project Plan Modification Groupings

Mod 4 - Fault Ride Through

> Type B-D (inc settings) – GC0062 has investigated this but will not deliver a solution. They will make recommendations which GC0048 can use to start this work

NEW! > Type B (SPGM) active power recovery

NEW! > Type B-D (PPM) fast fault current injection + active power recovery

Mod 5 - Voltage and Reactive Power

Mostly parameter setting or evolving existing requirements

> Type C-D voltage stability - automatic disconnection (inc type c-d SPGM; PPM)

> Type C-D provision of active power over a range of system voltage changes

> Type C-D angular stability (incl Type D SPGM)

> Voltage ranges (B-D; SPGM; PPM)

> Type B-C (SPGM) - reactive power (inc settings; max capacity/below max capacity)

> Type B (SPGM) - voltage control

> Type D (SPGM) - excitation control system (inc AVR)

> Type C-D (PPM) - reactive power control modes (voltage/reactive/power factor) (GC0075?)

Mod 6 – Frequency

Mostly parameter setting or evolving existing requirements (except LFSM-U)

> Type A-D frequency ranges

> RoCoF/withstand (GC0079!)

> LFSM-O, inc settings

> reconnection + disconnection

> Maintenance of active power during falling frequency (+ parameters)

> Type C-D: period within which the adjusted active power set point must be reached

NEW > Type C-D: LFSM-U (inc settings)

> Type C-D: FSM (inc settings) (GC0087?)

> Ancillary Services Monitoring

> Type C-D: Frequency relay settings

> Type C-D: Under frequency disconnection (pump-storage/generators acting as load)

> Type C-D: Island operation

> Type C-D (PPM): Synthetic inertia

Project Plan Modification Groupings

****NEW** Mod 7 - System Management**

Mostly parameter setting or evolving existing requirements

> Type A - automatic reconnection (inc settings)
> Type B - System restoration (inc settings)
> Type B - Control Schemes
> Type B - Protection
> Type B - Operational Metering
> Type C-D - Black start capability [Peter Chandler MO]
> Type C-D - quick re-synchronisation capability
> Type C-D - monitoring (DSM; fault recording; quality of supply)
> Type C-D - simulation/models
> Type C-D - devices for system operation/security
> Type C-D - ramp rates
> Type C-D - earthing
> Type D - synchronising (inc settings)

****NEW** Mod X - Regulatory Authority/Member State (Ofgem/DECC) responsibilities**

> Determine who 'Relevant TSO(s)' for GB Synchronous area are
> Assign actions under code to TSO(s) (RACI)
> Confidentiality
> Consider Licence changes
> Market arrangements to instruct new requirements (incl below Mod Y)

****NEW** Mod Y - Generator Comms**

> Type A Input port modules for ceasing active power
> Type B Input port to reduce active power following an instruction
> > Remove operation

Supporting work:

> Check pending and new BCAs for generators bound by RfG that they align with the regulation