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NATIONAL GRID ELECTRICITY DISTRIBUTION

FLEXIBLE OPERATION OF WATER NETWORKS ENABLING RESPONSE SERVICES (FLOWERS)

***D2-2. LATENCY FLEXIBILITY COMMERCIAL
PROPOSAL DOCUMENT***

FINAL VERSION 2 – 27/01/2023

**FLOWERS D2-2 LATENCY FLEXIBILITY
COMMERCIAL PROPOSAL DOCUMENT**

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2 PROJECT OVERVIEW

The FLOWERS Project was established to assess the potential capability of South West Water's (SWW) network to embed energy flexibility potential from within Drinking Water and Waste Water processes as well as assets. It will explore methods of delivering latency flexibility and analyse the feasibility of implementing it on SWW's systems. In addition to identifying this potential, the project is keen to identify appropriate reward and remuneration mechanisms that reflect the unique relationship that water companies and electricity networks share with customers and regulators. By considering an alternative approach to the existing market opportunities that are open to any provider of energy network flexibility, it may be possible to achieve a better outcome for the utilities, customers, and UK Plc as whole. This is not without significant barriers that we have identified and are keen to challenge. Much of this is outlined in the FLOWERS D2-1 Interim Commercial and Regulatory Relationships report that was published in 2022, which will also provide additional context for the following outputs contained within this document.

The project has considered the roles of water and electricity regulators who have responsibility over what is deemed to be permissible across much of the commercial activities that utilities undertake. The regulatory frameworks are intended to set out and manage Ofgem's responsibilities.

- Working with government, industry, and consumer groups to deliver a net zero economy, at the lowest cost to consumers.
- Stamping out bad practice, ensuring fair treatment for all consumers, especially the vulnerable.
- Enabling competition and innovation, which drives down prices and results in new products and services for consumers.

The government is responsible for setting the policy for the energy sector and proposing any changes to the statutory frameworks which are then applied and monitored by Ofgem to ensure compliance and enforcement. The regulator does, however acknowledge a clear role to play in support of policy issues, such as decarbonisation, and where appropriate identify important policy gaps that affect consumers. This will often reflect the identification of bad practices and following up complaints, but it can also feasibly include the identification of positive improvements that can deliver material benefits to the wider industry as well as consumers. It is on this basis that we are seeking to identify compelling cases for whole system optimisation that will make positive contributions to meeting the UK's net zero commitments.

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3 EXECUTIVE SUMMARY

FLOWERS is a collaborative project between electricity and water utilities which recognises that there is significant potential for energy flexibility within the water industry if it can be harnessed and made available to the electricity networks. Unfortunately, to date only a relatively small proportion of this has ever been active in commercial flexibility programmes, directly or via aggregators, to the main schemes operated by National Grid or the more recent services to support DNOs. There are several possible reasons for this, which will form part of the investigative analysis that will be a key tenet of the project. However, initial engagements have already confirmed some key barriers:

- Cost to enable compliant metering and controls to qualify flexible assets for existing flexibility programmes.
- Insufficient administrative resources to repeatedly tender assets and manage contracts for flexibility programmes.
- Potential conflicts between DSR programme rules and primary duty of assets that have flexibility potential.
- Main focus of water authorities is directed to core business and key strategic objectives such as decarbonisation, water quality and energy costs.

While the points above are not unique to the water industry, the regulated nature of the utilities and the way in which they are funded sets them apart. It is acknowledged that some of these claims could be made of gas networks, but they are not prevalent as water and electricity, which service almost every single property across the nation. While this is clearly 'out of scope' in the FLOWERS project we recognise that there may be further potential and if successful may open up the opportunity to include gas in any future iterations of whole system investigations.

The most compelling justification for challenging some of the regulatory restrictions as part of whole system efficiency is linked to the way in which the utilities are paid for by customers. As public utilities, water and electricity networks not only service the vast majority of properties, but they are also paid for through contributions from every household and business who use their services. On this basis alone there is a compelling case to shift water utilities out of the standard competitive approach and embed their contribution to enhanced efficiency within standard operating procedures.

Project FLOWERS will carry out analysis to identify the latency that exists within the water authorities on wastewater, water treatment and drinking water distribution. It will attempt to identify the benefits that the electricity network can achieve by utilising this as a tool within its smart grid toolkit. The quid pro quo for the water industry, if it is to opt out of the payments associated with DSR programmes, must be of more strategic value. The project will therefore challenge the regulatory restrictions of both utilities to investigate the feasibility of treating the water industry favourably to help improve their energy efficiency and carbon impact so that both utilities can take a unified approach to delivering on their Net Zero commitments.

Finally, we also recognise that with generally the same customers and infrastructure that serves the same areas, that there may be a wider range of benefits outside of activities that lead directly to the consumption or generation of electricity. Therefore, in spite of not being a core deliverable of FLOWERS we will document any additional 'whole system' approaches we uncover that have the potential to compliment Ofgem's commitment to addressing policy gaps, which could help deliver:

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- Financial efficiencies
- Carbon reductions
- Reduced waste
- Improvements to customer experience

This specific document provides an overview of the current regulatory regime and identifies the elements of the project that present challenges to the status quo to realise benefits through a ‘utilities whole-system’ approach to efficiencies and tackling issues. By working together in specific areas, we expect to discover underlying efficiencies across water and electricity utilities that are technically feasible but blocked by current policies and governance structures.

This novel approach will therefore assist Ofgem in the identification and investigation of opportunities when approached from a ‘combined utilities’ perspective.

4 STAKEHOLDERS

A key concern for regulators will be the impact of changes on stakeholders, markets, and the end consumer.

Stakeholders in the market have different priorities as set out in Table 1 below. The propositions that have been identified within the project may not be recognised as being of direct positive benefit to all of these stakeholders. This is primarily expected to be the views of commercial stakeholders from either within the energy industry or stakeholders heavily reliant on obtaining additional connection capacity as part of their business operations. These stakeholders could understandably perceive the propositions as offering anti-competitive favourable conditions to the water industry or at the very least a distortion to the burgeoning opportunities to provide flexibility services to DSOs / DNOs.

For the purposes of this report the main stakeholders that we will be considering are the regulators and the utilities that they manage. As the propositions evolve, we expect to publish consultations wherever appropriate, to gather the views of the other stakeholders identified within Table 1 below. These ‘other’ stakeholders also have the independent right to contact the regulators and express any views or specific concerns directly without identifying themselves to any of project participants. As this project is part of an innovation funded scheme it is necessary that every opportunity is taken to push the boundaries of existing regulation where tangible benefits can be achieved. The regulator can then make its own determination based on the presented evidence as to whether a change in the framework is to the overall benefit of the industry and UK Plc as a whole.

Table 1 - Identified Stakeholders

Stakeholder	Priorities	Key role(s)
DNOs	<ul style="list-style-type: none"> • Ensuring safe and reliable operation of distribution networks • Meeting price control objectives • Meeting net zero objectives • Consumer protection • Process improvements 	<ul style="list-style-type: none"> • Owners and operators of distribution networks • Maintaining, upgrading and repairing of physical assets • Managing the distribution network connections process

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Stakeholder	Priorities	Key role(s)
DSOs	<ul style="list-style-type: none"> Support of the DNO and primarily responsible for the development of commercial flexibility programmes to alleviate network congestion.¹ Reducing costs for flexibility Responsible for procuring DNO flexibility via market based mechanisms Maintaining 	<ul style="list-style-type: none"> Enable competitive markets Tender network reinforcement as neutral facilitators Embed whole systems coordination
Water Companies	<ul style="list-style-type: none"> Meet business plan and price control objectives Meeting net zero objectives Manage capital costs Consumer protection Process improvements 	<ul style="list-style-type: none"> Deliver water and sewerage services Environment and low carbon objectives
Ofgem	<ul style="list-style-type: none"> Protecting customers, including vulnerable customers, achieving net zero and promoting markets 	<ul style="list-style-type: none"> Energy Regulator for regulated and competitive markets
Ofwat	<ul style="list-style-type: none"> Water company efficiency, lower costs for the consumer Water companies reach net zero by 2030 by reducing usage and installing renewable energy 	<ul style="list-style-type: none"> Water Regulator Determines water price controls and approves business plans
Flexibility providers	<ul style="list-style-type: none"> Maximising received revenue for flexibility services 	<ul style="list-style-type: none"> Generators or demand side response capacity that can provide flexibility services
Prospective network users	<ul style="list-style-type: none"> Quick connection to the network, low connection costs 	<ul style="list-style-type: none"> Generators or demand customers that wish to connect to the distribution system
Aggregators	<ul style="list-style-type: none"> Maximising received revenue for flexibility services Ability for third party aggregators to access services 	<ul style="list-style-type: none"> Parties that coordinate generators and demand side response capacity and act as a route to market for their flexibility
Energy suppliers	<ul style="list-style-type: none"> Ability to hedge customer positions, earn a retail margin 	<ul style="list-style-type: none"> Sell electricity to customers, including water companies
Vulnerable customers	<ul style="list-style-type: none"> Low utility bills and security of supplies, access to services 	<ul style="list-style-type: none"> End beneficiaries of the water and electricity systems, may require additional support
Electricity customers	<ul style="list-style-type: none"> Low utility bills and security of supplies 	<ul style="list-style-type: none"> End beneficiaries, pay use of system charges
Water Customers	<ul style="list-style-type: none"> Low utility bills and security of supplies 	<ul style="list-style-type: none"> End beneficiaries pay water rates

¹ <https://www.ofgem.gov.uk/publications/dso-ofgem-regulatory-principles-and-priorities-workshop>

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Stakeholder	Priorities	Key role(s)
ESO (Electricity System Operator)	<ul style="list-style-type: none"> • Ensure reliable, secure system operation to deliver electricity when customers need it • Transform participation in smart and sustainable markets • Unlock consumer value through competition • Drive towards a sustainable, whole energy future 	<ul style="list-style-type: none"> • Ultimate responsibility for the overall stability of the GB electricity system • Balance of supply and demand • Demand forecasting

5 FLEXIBILITY FRAMEWORK UNDER FLOWERS

The primary purpose of this document is to outline the services that could be established with the water industry, through the methods for accessing latency within processes and unutilised assets set out in the 'D4-1 Specification and High-Level Architecture' document. This provides a more detailed breakdown of the use cases and technical requirements for each. An appendix has been included within this document for easy reference to the 16 use cases that make up the proposed outputs for FLOWERS services.

6 MECHANISMS FOR WATER INDUSTRY FLEXIBILITY

A key consideration from regulators will be whether there are already sufficient mechanisms that could realise the flexibility from water companies, and/or whether the FLOWERS approach could impact other areas of the market. The objective of the project is to increase the capacity of flexibility on offer from the water industry and find alternative mechanisms to incentivise its mobilisation from traditional flexibility services. However, it is vital that this achieves an overall positive net benefit and should avoid negatively impacting wider participation in other DSO flexibility programmes as a result of significant reduction to incentives.

The conventional Demand Side Response (DSR) methods that Water Companies flexibility can be used to generate value for themselves include:

- **Traditional DNO flexibility services** – four flexibility products contracted for by DNOs, in which assets compete for the provision of upwards flexibility in return for availability, arming or utilisation payments.
- **Emerging DSO flexibility services** – new flexibility services being developed as part of innovation trials and local initiatives, such as Intraflex, which assets compete for provision of flexibility in return for payments through 3rd party markets, rather than the traditional product-based offerings.
- **ESO balancing services** – assets provide a range of centrally-procured upwards and downwards services to address national balancing needs. Assets usually compete to provide services in return for payments, however some services are mandatory or have limited scope for competition.
- **Wholesale market / imbalance price signals** – Assets with portfolios respond to ex-ante price signals in the wholesale market or ex-post imbalance prices, to avoid or capture high or low prices. Payments are on a total portfolio, rather than asset specific, basis.

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- **Active Network Management** – assets agree to lower levels of output when agreeing a connection with a DNO, giving the DNO the ability to control its output to manage network constraints.

There are a number of differences between these, and the potential FLOWERS flexibility service as outlined below.

Table 2 - Comparison of FLOWERS flexibility with other flexibility products

Flexibility service provided	Payment received for flexibility	Accessible by	Other considerations	
FLOWERS	<ul style="list-style-type: none"> • Upwards and downwards flexibility on a site-specific basis, depending on up-to-date water company flexibility 	<ul style="list-style-type: none"> • Offered on a 'quid pro quo' basis • No direct financial compensation 	<ul style="list-style-type: none"> • Regulated water companies that are publicly funded through water rates 	<ul style="list-style-type: none"> • Service may free up headroom for additional renewable generation connection • Service is designed specifically for Water company flexibility depending on site specific and temporal abilities. • Water companies could respond to less conventional, localised signals. For example, low carbon intensity due to high renewable generation within local area.
Traditional CMZ flexibility	<ul style="list-style-type: none"> • Upwards flexibility on a site specific or locational basis 	<ul style="list-style-type: none"> • Availability, arming or utilisation payments 	<ul style="list-style-type: none"> • Flexibility providers in DNO target areas 	<ul style="list-style-type: none"> • Potential to include downwards flexibility in future
Emerging DSO/local flexibility	<ul style="list-style-type: none"> • Demand Reduction flexibility on a site specific or locational basis 	<ul style="list-style-type: none"> • Availability, arming or utilisation payments 	<ul style="list-style-type: none"> • Flexibility providers in innovation target areas 	<ul style="list-style-type: none"> • Potential to include demand turn up flexibility in future
ESO balancing services	<ul style="list-style-type: none"> • Range of upwards and downwards flexibility services to the ESO 	<ul style="list-style-type: none"> • Availability, arming or utilisation payments 	<ul style="list-style-type: none"> • Different balancing service and flexibility providers, depending on the service 	<ul style="list-style-type: none"> • Centrally procured products to address national balancing needs • Distribution assets may face a disadvantage compared to transmission assets for ESO balancing services

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	Flexibility service provided	Payment received for flexibility	Accessible by	Other considerations
Wholesale market / imbalance price signals	<ul style="list-style-type: none"> Upwards and downwards flexibility on a Trading Party basis 	<ul style="list-style-type: none"> Avoided or captured prices 	<ul style="list-style-type: none"> Wholesale market participants on a Trading Party (i.e. portfolio level) basis 	<ul style="list-style-type: none"> Does not support distribution level balancing
Active Network Management (ANM)	<ul style="list-style-type: none"> Curtailment of generating assets close to real time 	<ul style="list-style-type: none"> NA – no payments for ANM actions (although ANM provisions could allow quicker/cheaper connections) 	<ul style="list-style-type: none"> Distribution connected generators 	<ul style="list-style-type: none"> ANM is only available in limited locations and has a high associated cost

Therefore, the FLOWERS approach may offer a number of benefits compared to the other flexibility products:

- FLOWERS flexibility would in most cases become an embedded service capability on offer to DNO/DSO during periods of need. These could precede the need for going to the wider market for flexibility providers and defer associated costs that are recovered from customers.
- FLOWERS Demand Turn Up (DTU) services could be employed to absorb export generation on the distribution network, improving overall system efficiency, reducing the carbon intensity of consumed electricity, and increasing the gross output of renewables, which will assist the UK in its pathway to Net Zero.
- FLOWERS use cases create a number of service types ranging from pre-emptive use that can operate on a scheduled basis over entire seasons, through to quick response short duration services for addressing acute constraint or post fault conditions. This broad requirement creates many opportunities for participation by the water industry and its wide portfolio of latent processes and assets.
- FLOWERS flexibility is water company capability led, rather than led by the design of the products, which should help facilitate optimal usage of available flexibility in terms of Water Companies general abilities.
- Water Companies would not face the same barriers to entry compared to other flexibility products. This is important given the size of water companies demand and importance of multi-vector alignment for the net zero transition. This has been a highly limiting factor that has resulted in only a small proportion of the water industries potential being realised to date.
- FLOWERS flexibility could be offered for a lower price compared to other flexibility products, reducing overall flexibility costs for DNOs and costs for end-users more generally. In fact, the general proposal is to use non-fiscal mechanisms that focus on whole-system efficiency and optimisation.

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6.1 INDIRECT REMUNERATION ‘QUID PRO QUO’

This section outlines the areas of FLOWERS that we believe could impact the wider market. Much of the research within the current phase of FLOWERS has been focussed on identifying the potential within the water industry and the development of use cases that would make best use of it. This has been seen as a vital step in the early design of any service capabilities and establishing the ‘art of the possible’ before determining whether it is worth proceeding through the next steps research to determine the impact of implementation and where any challenges may be raised by other stakeholders, including regulators. We would expect the basis of most objections will relate to how the additional capacity offered by the water industry could impact flexibility providers from all other industries and how they are likely to be rewarded for that capacity.

The following information proposes some suggestions how the non-fiscal remuneration may be structured but this will ultimately be the subject of follow-on work to establish a more detailed understanding that incorporates the views of regulators and key stakeholders.

The initial engagement with the water industry, prior to the formation and registration of the FLOWERS project, was to discuss the challenge that the water industry is facing in delivering against its net zero targets. The industry is relatively unique in the respect that wastewater treatment operation inherits waste from domestic properties, industry and run off from drainage which then generates a carbon footprint to process. Due to this it is theoretically impossible for water companies to eliminate carbon through process efficiency alone and they are forced to find low and zero carbon (LZC) energy and off-sets to achieve their objectives.

Unfortunately, it is increasingly difficult within the highly congested electricity distribution network to gain the necessary permissions to connect additional LZC generation. It is for this reason that ongoing work will focus on identifying and overcoming barriers that prevent the water industry increasing its capacity for LZC energy resources. It would be preferable that the LZC energy resources will be co-located on sites where consumption takes place to directly offset the requirement for grid supply, but it may be necessary to consider a more holistic approach and seek permission to create dedicated facilities solely for the purpose of LZC generation.

There are several factors, in addition to the way that water and electricity distribution are funded, that may make a viable case to favour a LZC generation connection for the water industry over other commercial entities that need to be considered;

- DNOs need to ensure that the requested capacity from a generation applicant can either be accepted within the available headroom capacity of the network at times of low demand (G99) or a generation limiting scheme (G100) has to be installed to ensure that limits are not breached.

The proposal for FLOWERS assumes that there will be closer operating relationships between DNO & water companies control rooms and sites. With the ability to communicate between control rooms it would be possible to take a more dynamic approach to constraint instructions that are less prescriptive than automated systems

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and allow a greater level of operational optimisation. This is opposed to what is referred to as a LIFO (Last In First Out) arrangement, where the water industry sites would be limited in export ahead of any sites that had to follow the standard connection procedure.

- To limit any allegation of market distortion, and to ensure that the motivation for water companies is to support net zero, it will be necessary to enforce limits of use. Any assets, particularly energy storage schemes, would **not** be able to participate in ancillary services such as capacity market, frequency services etc. that can be highly competitive, and any advantage offered in the connection of assets would be at the expense of other participants operating within a neutral market. Only in circumstances where a service or market is otherwise unable to attract sufficient liquidity should it be possible for water companies to offer a FLOWERS asset.
- In the growing number of instances where generation may exceed networking operating limits and G100 schemes are necessary to reduce outputs from generators it may be possible for water sites to increase demand through a combination of rescheduling processes or charging up storage. Incentives for such actions that enable other generation to be maintained could take the form of reductions to DUoS or even a carbon credit of some form, although this would inevitably require the approval of the scheme by BEIS or other governmental bodies.

Through previous work carried out by National Grid Electricity Distribution (NGED), it is possible to calculate the actual carbon intensity of electricity at a grid supply point, and determine the difference between this and the average values normally used for carbon reporting. Either mechanism would help share the benefit of whole system optimisation with the wider community through reduced operating costs which are in turn recovered through water rates or reduced carbon impact within the industry. There are ongoing efforts to calculate more granular carbon intensity – and a carbon incentive for water companies could take advantage of these developments.

6.2 AREAS OF THE MARKET THAT COULD BE IMPACTED

Water companies providing their flexibility via the FLOWERS approach could impact or distort other areas of the market. Areas that could be impacted include:

- **Markets for flexibility as outlined above** – where water companies' FLOWERS flexibility could be seen a substitute or distortion to these markets.
- **Active Network Management** – where DNOs could use FLOWERS flexibility as an alternative to ANM should be generally recognised as a benefit. As per the table above, ANM is only available in limited locations and has a high associated cost. By having improved operational coordination and direct communication it may be possible to allow additional generation without the need for an expensive system to manage asset limits.
- **The existing DNO connection and queue management process** – where assets pay connection charges to connect to the system, potentially with ANM conditions.

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FLOWERS could give water companies another route to connecting generating assets compared to the traditional connection route.

- **The DNO connection process, with Ofgem Access Significant Code Review (SCR) changes** – assets could have alternative connection options, which could vary based on firmness or time (e.g. peak or off-peak).

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7 USE CASE SUMMARY TABLE

Methods A to E are summarised in the following table, outlining the key characteristics, associating them with the 16 use cases that have been developed within the project to date.

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(Method) Use Case	Conventional or Reverse	Dispatch Method	Minimum Duration (min)	Minimum Capacity (kW)	Frequency of use	Visibility	Seasons	Comments				
								Wastewater ST	Wastewater MD	Drinking Water WT	Drinking Water WD	Control Communication
(A) 1	Conventional	Seasonal	60	50	All	None	All	Not possible by flexing processes but could be implemented by utilising on site generation.	Could be implemented by utilising on site generation.	Not by flexing processes but by utilising on site generation	Could be implemented by utilising on site generation.	Strategic Flexibility Planning Teams from NGED and SWW. Would need day ahead confirmation.
(A) 2	Conventional	Seasonal	60	50	weekdays	None	Winter	Not possible by flexing processes but could be implemented by utilising on site generation.	Could be implemented by utilising on site generation.	Not by flexing processes but by utilising on site generation	Could be implemented by utilising on site generation.	Strategic Flexibility Planning Teams from NGED and SWW. Would need day ahead confirmation.
(A) 3	Reverse	Seasonal	60	50	All	None	All	Not currently possible by flexing processes but could be implemented by utilising on site batteries	Could be implemented by utilising on site batteries	Not by flexing processes but by utilising on site batteries	Could be implemented by utilising on site batteries	Strategic Flexibility Planning Teams from NGED and SWW. Would need day ahead confirmation.
(A) 4	Reverse	Seasonal	60	50	Weekends	None	Summer	Not currently possible by flexing processes but could be implemented by utilising on site batteries	Could be implemented by utilising on site batteries	Not by flexing processes but by utilising on site batteries	Could be implemented by utilising on site batteries	Strategic Flexibility Planning Teams from NGED and SWW. Would need day ahead confirmation.
(B) 5	Conventional	Weekly scheduling	60	100	Weekdays	None	All	Not possible by flexing processes but could be implemented by utilising	Could be implemented by utilising on site generation.	Not by flexing processes but by utilising on	Could be implemented by utilising on site generation.	Strategic Flexibility Planning Teams from NGED and SWW. Would

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								on site generation.		site generation		need day ahead confirmation.
(B) 6	Conventional	Weekly scheduling	60	100	Weekdays	None	Winter	Not possible by flexing processes but could be implemented by utilising on site generation.	Could be implemented by utilising on site generation.	Not by flexing processes but by utilising on site generation	Could be implemented by utilising on site generation.	Strategic Flexibility Planning Teams from NGED and SWW. Would need day ahead confirmation.
(B) 7	Reverse	Weekly scheduling	60	100	All	None	All	Not currently possible by flexing processes but could be implemented by utilising on site batteries	Could be implemented by utilising on site batteries	Not by flexing processes but by utilising on site batteries	Could be implemented by utilising on site batteries	Strategic Flexibility Planning Teams from NGED and SWW. Would need day ahead confirmation.
(B) 8	Reverse	Weekly scheduling	60	100	Weekends	None	Summer	Not currently possible by flexing processes but could be implemented by utilising on site batteries	Could be implemented by utilising on site batteries	Not by flexing processes but by utilising on site batteries	Could be implemented by utilising on site batteries	Strategic Flexibility Planning Teams from NGED and SWW. Would need day ahead confirmation.
(C) 9	Conventional	30 min manual	60	200	all	None	all	Potentially by flexing processes dependent on rain status and forecast	Would need to be Automatic and prob min size 20 kW	Potentially by flexing processes dependent on demand and reservoir levels	Would need to be Automatic and prob min size 20 kW	Control Room to Control Room with immediate confirmation of dispatchability by SWW
(C) 10	Conventional	30 min manual	60	200	weekdays	None	winter	Potentially by flexing processes dependent on rain	Would need to be Automatic and prob	Potentially by flexing processes dependent on	Would need to be Automatic and prob	Control Room to Control Room with immediate confirmation of

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								status and forecast	min size 20 kW	demand and reservoir levels	min size 20 kW	dispatchability by SWW
(C) 11	Reverse	30 min manual	60	100	weekends	None	Summer	Potentially by flexing processes dependent on rain status and forecast	Would need to be Automatic and prob min size 20 kW	Potentially by flexing processes dependent on demand and reservoir levels	Would need to be Automatic and prob min size 20 kW	Control Room to Control Room with immediate confirmation of dispatchability by SWW
(D) 12	Conventional	15 min automated	30	200	all	Status confirm	all	Potentially by flexing processes dependent on rain status and forecast	Would need to be Automatic and prob min size 20 kW	Potentially by flexing processes dependent on demand and reservoir levels	Would need to be Automatic and prob min size 20 kW	Control Room to Control Room with immediate confirmation of dispatchability by SWW
(D) 13	Conventional	15 min automated	30	200	weekdays	Status confirm	winter	Potentially by flexing processes dependent on rain status and forecast	Would need to be Automatic and prob min size 20 kW	Potentially by flexing processes dependent on demand and reservoir levels	Would need to be Automatic and prob min size 20 kW	Control Room to Control Room with immediate confirmation of dispatchability by SWW
(D) 14	Reverse	15 min automated	30	100	weekends	Status confirm	Summer	Potentially by flexing processes dependent on rain status and forecast	Would need to be Automatic and prob min size 20 kW	Potentially by flexing processes dependent on demand and reservoir levels	Would need to be Automatic and prob min size 20 kW	Control Room to Control Room with immediate confirmation of dispatchability by SWW

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(E) 15	Conventional	1 min automated	15	200	weekdays	Status monitor	winter	Potentially by flexing processes dependent on rain status and forecast	Would need to be Automatic and prob min size 20 kW	Potentially by flexing processes dependent on demand and reservoir levels	Would need to be Automatic and prob min size 20 kW	Control Room to Control Room with immediate confirmation of dispatchability by SWW
(E) 16	Reverse	1 min automated	15	100	weekends	Status monitor	Summer	Potentially by flexing processes dependent on rain status and forecast	Would need to be Automatic and prob min size 20 kW	Potentially by flexing processes dependent on demand and reservoir levels	Would need to be Automatic and prob min size 20 kW	Control Room to Control Room with immediate confirmation of dispatchability by SWW

