

Hafren Dyfrdwy's Report Regarding Weather Related Operational Resilience

1. Introduction

1.1 Context

Hafren Dyfrdwy was not as severely affected by the March freeze/thaw as neighbouring utilities, and in general we consider that we coped well with the situation. However, we are conscious that the effects of climate change mean weather-related events may increase in frequency and extremity in future. We are therefore striving to ensure that any future severe weather event has as little impact as possible on our customers. In particular, we are working closely and integrating further with our closest neighbours, Severn Trent Water, to share knowledge and expertise (including that which it has obtained from other companies in the sector). We are also working with the sector more broadly both directly (in the case of Welsh Water and United Utilities) and through Water UK to share best practice.

Our ultimate goal is to reduce the likelihood of future weather-related events becoming incidents; and to be better prepared for and equipped to deal with those that do. In doing so, we will provide our customers and stakeholders with full confidence in our operational resilience. This paper sets out our plans to make this happen. We address here the matters raised in Ofwat's company specific letter to us, and the thematic issues raised at section five of its 'Out in the Cold' report.

1.2 How we have structured our plans

We have structured our plan to improve our operational resilience around Ofwat's 'Avoid, Cope, Recover' framework:

- **Avoid:** Reducing the likelihood of operational resilience incidents arising
- **Cope:** Mitigating the impact of operational resilience incidents by responding to them quickly and effectively
- **Recover:** Resuming normal customer service following an operational resilience incident quickly and effectively

The framework is helpful in highlighting the range of options available for improving operational resilience. The sector's experience in the freeze and thaw event and subsequent warm weather event suggests that we need to both reduce the likelihood of events developing into incidents; and improve our and our customers' ability to cope with and recover from incidents when they develop. In Sections 2-4 of this report we set out our plans to improve our operational resilience in each element of the framework, both in relation to future freeze and thaw events and weather-related events more broadly.

2. Avoid

Reducing the likelihood of incidents arising is the best way to improve operational resilience, because it provides the most effective protection to our customers. In this section we describe our plans to reduce the likelihood of incidents arising in six key areas:

- Mitigating the effect of customer side bursts
- Sharing best practice across the industry
- Investing in our dams, reservoirs and network
- Investing in our community and the environment
- Innovation

- Building our technical capacity

2.1 Mitigating the effect of customer side bursts

We continue to follow the former Dee Valley Water approach to customer side bursts (including in the Powys area which has transferred to us from Severn Trent). We offer a subsidised repair scheme to customers up to a value of £225, after which the customer is recharged for any costs incurred above that threshold.

We are also using our new website and new social media channels (see section 3.3 below for more detail) to run campaigns to customers on water conservation and will in the winter use these channels to educate customers on the importance of lagging pipes and we will also be providing incentives and support for customers to do this.

2.2 Sharing best practice across the industry

We are working closely with Water UK to share best practice across the industry. In particular, our team gave a presentation on our lessons learnt from the freeze/thaw and hot weather incidents to Water UK on 10 September 2018.

2.3 Investing in our dams, reservoirs and network

After the incident which affected us in 2010, we made investments in the resilience of our assets in particular in relation to trunk mains and service reservoirs which have served us well in this year's incidents. For example, tanks have been installed and are scheduled to be commissioned in November at Sugn-y-Pwll and Llangollen service reservoirs allowing the existing reservoirs to be recommissioned. Our Llwyn Onn service reservoir plans are progressing well with a second reservoir constructed and water tested with all DWI commitments being met.

We will be investing a further £19million over the next five years in our dams and treated water service reservoirs. This investment has been identified by the use of best practice risk management standards and will improve our resilience of supply.

We will also be investing to mitigate single points of failure and strengthening processes and procedures. We are looking for opportunities to increase capacity, storage and interconnectivity.

2.4 Investing in our community and the environment

Over the next five years we will be investing £2.5million to improve around 22km of river water quality, which represents the largest statutory environmental programme required in this part of Wales for 20 years. We will also be enhancing biodiversity and well-being by investing almost £2m, the majority of which is planned at Lake Vyrnwy. The project will restore approximately 450 hectares of upland peat bog to move the SSSI status from 'Unfavourable' to 'Favourable', which will provide greater resilience for our ecosystems. Together with our partners, we have secured £1.5m Heritage Lottery Funding that allows us to leverage 60% matched funding which makes this flagship scheme more affordable to our customers.

2.5 Innovation

We are also targeting innovation where we have the greatest challenges. For example we will be building on the great foundation that the Dee Valley team laid when they introduced a system that gave them 100% visibility of the performance of their above ground assets. This provides a wealth of easy to analyse data and has resulted in a reduction in unplanned maintenance of around 25% in just two years. We are also upgrading the telemetry system used to provide information on the

performance of our assets. This will enhance our visibility of our network enabling early detection of any issues with assets and will assist leakage detection.

On the waste water service we are developing plans for how we can maximise the innovation that we are trialling between 2015 and 2020 at Llys Rhysnant. This approach builds treatment solutions bespoke to the local area's needs, makes the most of natural solutions (for example, reed beds) and by doing so reduces operational costs and adverse environmental impact by 40% over the 25 year life and creates a more resilient solution through the use of low/no technology waste processes.

Leakage represents a proportion of our system demand and reducing leakage is a priority. We also acknowledge that in the freeze/thaw leaks in Powys took too long to fix and we are taking steps to ensure that this does not happen again (see also section 3.2 below on incident response). In this regard, we are installing more loggers across the network that will enable us to listen for leaks. HD is already well covered with pressure reducing valves and in the next AMP period we will be installing pressure sustaining valves, which shut off a main if pressure drops significantly (for example, due to a leak) preventing storage reservoirs from being drained. Finally, we are learning from the best practice at Severn Trent Water by rolling out their proactive night-time leak detection methodology.

Finally, in conjunction with Severn Trent Water, we are also developing plans to implement a 'situational awareness' model that will combine advanced analytics and real-time network models to enable demand predictions and therefore resource forecasts that are reflective of works production/outages, service reservoir levels/outages and risk appetite. These models will help us to avoid operational resilience incidents by (1) enabling 'what-if' analysis and scenario planning to inform better asset management decisions; and (2) enabling faster responses to potential incidents by identifying early warning signs sooner.

2.6 Building our technical capacity

We will benefit from the £10million investment being made by Severn Trent Water in establishing a training academy to provide our employees with access to technical training and development throughout their careers, to make the workforce the most technically skilled in the industry.

3. Cope

The main issue highlighted by Ofwat was the relatively high threshold for our severe weather incident trigger. We have used the opportunity presented by this review to look at our overall incident management processes and have structured our improvement plans around the five themes used by Ofwat in its review:

- Planning and preparation
- Incident response
- Communications
- Vulnerable customers
- Compensation

3.1 Planning and Preparation

We have seasonal preparation plans to cope with adverse weather conditions, such as snow in winter and hot weather in summer. Our seasonal preparedness plans and incident planning and management arrangements are in the process of being aligned with those of Severn Trent Water to provide a consistent and coherent framework (including for making effective use of common

resources with the Group). There is now one incident manual which applies to both Severn Trent Water and ourselves.

In light of our learnings from this incident and in line with the commitment we made in our 26 April 2018 response to Ofwat's request for information, the weather related triggers in the incident plan have been updated. We have therefore adopted the revised Severn Trent weather related triggers for hot, cold, storm and freeze/thaw weather conditions. The specific freeze/thaw incident triggers are set out in the following table:

Summary of freeze and thaw incident triggers

- Operational Bronze: Where the average rate of change (freeze/thaw) is up to ~8C+ within 24 hour period after 3 days of below freezing temperatures
- Operational Silver: Where the average rate of change (freeze/thaw) is up to ~8C+ in over 24 hours after 5 days of below freezing temperatures
- Tactical: Where the average rate of change (freeze/thaw) is up to ~8C+ within 24 hours period after 8 days of below freezing temperatures

The Executive Committee of Hafren Dyfrdwy, led by the CEO Liv Garfield, has key accountability for the oversight of improvements to the Company's state of preparedness for and response to seasonal weather changes.

In terms of staffing and preparedness levels we have developed an experienced, multi-skilled workforce that is capable of taking on differing tasks which allows us to be flexible in our approach to dealing with various incidents of loss or failure. As standard, we communicate our plans in terms of staffing levels and network preparedness to Severn Trent Water as part of our normal communication and planning arrangements within the Group. When required as part of an incident, we can draw on resources from Severn Trent as required to assist with our response. We recognise that a finding of Ofwat in relation to the freeze/thaw incident is that it would be beneficial for us to share plans for staffing levels and network preparedness with other utilities and we have an ongoing dialogue with our neighbours United Utilities and Dŵr Cymru Welsh Water regarding this.

In this regard, we are also involved in other cross company activities, some led by us and some by the Local Resilience Forums (LRFs). For example there is a North Wales LRF working group that involves us, Dŵr Cymru Welsh Water and United Utilities which is concerned with off-site reservoir emergency plans. We also proactively liaised with Welsh Water on issues such as private water supplies during the summer hot weather incident.

We liaise with Dyfed Powys and North Wales LRF in relation to resilience and emergency planning. Both of these LRFs are included in the wider Severn Trent improvement programme as part of its learnings from the freeze/thaw incident. We are committed to working closely with our LRF partners, as we have done during the summer.

For each of our service reservoirs we have a documented response plan, which provides for how the reservoir can be supported with tankers in case of an incident and what other equipment is required, providing for a faster response time if an incident occurs.

3.2 Incident response

We have in the summer hot weather incident benefitted from our integration into the Severn Trent Group, for example through Severn Trent making water bowsers and tankers available to us to

enable us to keep customers on supply. We have a particular focus on repairing damaged assets during an incident to enable customers to stay on supply. In some of our area we have dual water mains giving redundancy, such that if one is damaged water can still be supplied from the other. We also utilise temporary overland pipes to move water from undamaged assets to the area requiring it.

Since the March freeze/thaw incident we have also made a number of additional changes to our operations that will benefit customers by enabling an improved response to future incidents. These include the introduction of shift patterns for our frontline team, which mean that we now have more employees available and therefore quicker response times to incidents. We have issued new technology across the frontline teams assisting faster inputting of data, leak detection and on site working enabling teams to be able to work more effectively from remote areas.

Finally we have voluntarily supported customers who are on private supplies, therefore going above and beyond our regulatory commitments. We consider that a sector wide approach to the support provided to customers who have private supplies would be beneficial.

3.3 Communications

We said in our 26 April 2018 response to Ofwat that we would be identifying how additional means of social media engagement would supplement our existing methods of customer contact. This work has come to fruition and we launched our new Facebook and Twitter channels on 1 July. This means that our customer service teams will be able to manage customer interaction and queries through social media for the first time, and we will proactively push out customer information for incidents and campaigns.

This summer these channels were used to communicate with our customers regarding water efficiency measures. From 1 July we also have an entirely new website which is much more informative than the previous site and contains more campaign content for topics like winter weather and water efficiency. However, we know that for our customers more traditional communication methods remain more effective and we will be making sure we have accurate contact information to be in touch in a more personal way by text and telephone.

3.4 Vulnerable Customers

Our customers' details are now incorporated into Severn Trent's billing system called Target, with a specific flag that differentiates our customers from those of Severn Trent. Our vulnerable customers are now therefore included in the Severn Trent Group Priority Services Register (PSR), and we will therefore benefit from enhancements being made to the Severn Trent PSR. In particular these are the implementation of a revised PSR encompassing a wider range of customers including those with transient vulnerabilities, and making it easier to identify those customers.

We have also been working with other companies in the sector '2020 Data Share' project. The aim of the 2020 Data Share project is to develop a legally robust process whereby PSR data is shared across companies to enrich each individual participant's PSR. The initiative is expected to go live in April 2020 and our participation will help ensure that our PSR is complete and accurate.

3.6 Compensation

In our 26 April 2018 submission to Ofwat, we stated that we had already started to review our approach to Guaranteed Standards Scheme (GSS) compensation payments and had some proposed enhancements to the then current Dee Valley GSS policy. We can confirm that both our and Severn

Trent's GSS policies have been reviewed and aligned, with our customers now benefiting from enhanced compensation payments as a result.

4. Recover

We recognise that responding to a major incident of any type can impact normal customer services – and an incident isn't fully over until business as usual service levels have been restored for all our customers. To recover from an incident, we are able to slow capital investment if necessary to focus on backlogs of customer jobs. We are also able to draw on Severn Trent's wider resource pool to assist with this.

We did not survey affected customers after the March freeze/thaw incident as there was not a significant impact on our customers. However, we would look to do so if there was a serious incident to understand and learn from our customers' feedback on our response to it.

We are committed to a programme to improve the well-being of our customers and society as part of our PR19 business plan, and in particular we would look for opportunities to give something back to communities which are affected by incidents affecting the service we provide to them.

5. Stakeholders

We have shared a draft version of this report with the CCW representative for our area. We are committed to present the key findings at the CCW for Wales Conference on 28 September.

6. Governance

Our Board has been informed about this report and has had an opportunity to review and comment on it. It has been signed by our Chairman and Chief Executive. As noted in section 3.1 above, the Executive Committee of Hafren Dyfrdwy has key accountability for the oversight of improvements to the Company's state of preparedness for and response to seasonal weather changes.