

# OUT IN THE COLD THE 2018 FREEZE/ THAW INCIDENT

Portsmouth Water's response to Ofwat, and  
the DWI's analysis of the Company's  
performance.



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## **Managing Director's Foreword**

As a monopoly supplier we recognise the importance of the service we provide to customers. We have a long-standing philosophy of “doing the right thing for our customers” and run our business as if they have a choice of supplier. We also have had a long term focus on investing in a resilient supply network.

The rapid thaw that followed the ‘Beast from the East’ period of cold weather over 2 and 3 of March 2018, in common with other water companies across the UK, had operational impacts upon Portsmouth Water. The effect of this significant temperature change was, to a large degree mitigated by long term investment in our network. There were, nonetheless, still operational impacts. As with all such operational events we seek to understand lessons learned and to use this as the basis of improving our response to future events. In addition to our internal processes we have also considered the wider industry feedback from Ofwat, the DWI and through Water UK workshops.

We were pleased that the overall analysis of Portsmouth Water’s performance was that we performed well and largely met our customers’ expectations. We have recognised the areas identified for improvement and this report sets out how we will respond to these points in order to improve how we deliver more of what matters to our customers.

A handwritten signature in black ink, appearing to read 'Neville Smith'.

Neville Smith  
Managing Director  
September 2018

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## The beast from the east

### Water Industry Freeze/ Thaw Event

#### 1. Introduction

The “Freeze/ Thaw” event saw a rapid increase in air temperature from -4 to +6°C within a 6 hour window on the 2-3 March 18. It followed a period of amber weather warnings from the Met Office regarding very low temperatures and snow. The low temperatures resulted in the freezing of some customers’ supply pipes and fittings. The temperature increase saw the frozen customer fittings manifest themselves as leaks, which lead to a 35% increase in demand.

In June 2018, Ofwat wrote to the Company, with its assessment of how well it performed in the severe freeze/ thaw event in March 2018. It concluded that Portsmouth Water performed well, but there was still room for improvement and set out a small number of issues. It requested that we respond to the matters raised by the 28<sup>th</sup> September 2018.

This report provides the response to the matters raised by Ofwat in its letter and other reports as follows:

- Internal lessons learnt activities
- Ofwat’s ‘Out in the Cold’ report
- Ofwat’s Company specific letter of 19<sup>th</sup> June 2018,
- The DWI’s Consolidated review of the widespread loss of supplies arising from the freeze/ thaw event affecting England and Wales
- Water UK’s workshops on 13 July & 10 September,

#### 2. Background

The Met Office provided a 5 day forecast which, on Wednesday 28 February, identified a potentially rapid thaw occurring over the coming weekend. Previous experience showed an increase in bursts and customer demand was likely. An incident team was formed to prepare the Company, staff and assets for an increase in work during the weekend.

##### 2.1 Preparation Works

Preparatory works included but were not limited to:

- The formation of the Incident response team on Wednesday 28 February 2018
- Confirming the availability of customer services, distribution staff, Company and contract gangs, supply and production staff, supervisors and managers to work at the weekend.
- Confirm who is able to get to work safely given the operational constraints imposed on the Company by the snow and ice.
- Confirming the material stock available to repair mains and services. In particular, the stock held to enact repairs on Wall Mounted Meter Boxes (of which the company has 26,000). These can be prone to failure during prolonged periods of freezing weather.
- Confirming the volume of bottled water held in stock for vulnerable customers and ensuring Arlington Tanks and Bowsers were ready for deployment.
- Reducing planned work to a minimum wherever possible to divert resources to operational find and fix activities.

## 2.2 Incident Response

On Friday night – Saturday morning demand increased significantly as the thaw crossed Portsmouth Water's supply area from west to east. None of the service reservoirs 'gained' during the night and at best held their levels. The increase in demand coincided with a power outage at our Farlington Pressure Relief Valve (PRV), which feeds Portsmouth City. Approximately 169,000 people were affected with low pressure for 1 ½ hours while operatives connected a mobile generator and manually opened the valve to improve water pressures in the city. All available production sites were optimised to meet the increased demand, which equalled summer time peak week conditions (230ML/day). Portsmouth Water's direct labour, supplemented by its infrastructure framework contractor's gangs, were repairing the network and fixing service leaks. On Sunday, the contractors' labour resource was stood down because the network leaks were not apparent with the majority of the issues being found on the customer side. By Sunday the business had largely returned to normal which was confirmed to DEFRA on Monday at the national situation report conference call.

Historically a rapid temperature increase would have resulted in up to approximately 20 bursts per day however; our long-term investment in the network meant that during the incident burst distribution mains rose from approximately 1 per day to a very low peak of approximately 5-6, affecting minimal customers.

Communications were managed in a proactive way. Key stakeholders such as radio stations, other mass media, council leaders and local residents associations were contacted by phone, email, text or direct tweet to notify them that we were dealing with an incident. This initial contact asks the stakeholders to use our tweets as a notice board that provides latest information and updates on progress. We then request that they retweet our notices to inform as many local residents as possible. This cascade approach is highly successful in distributing communications to a wide audience effectively whilst keeping key stakeholders informed and enabling them to play an active role in broadcasting our messages. We are only able to do this because of the good relationships we have built up over many years with these key people.

In addition to this, our Customer service team were mobilised on the Saturday morning to deal with the incident. They took a large number of calls initially but these returned to normal levels once the PRV was operational again. The website also displayed status updates on the incident which helped reduce the number of calls into the business.

## 2.3 Key Facts

- 18 bursts were repaired on the Saturday, Sunday and Monday
- Over 300 wall mounted meter box repairs were undertaken
- It is estimated that 75% of the demand was customer driven
- Only 4 customers were without water for more than 12 hours
- No customers were without water for 24 hours
- Production ramped up quickly and met demand throughout the incident
- No calls received from sensitive customers
- No GSS payments made
- Only 1 written complaint received
- No Water Quality issues
- The Company responded to every personal tweet into our account

Whilst the Company is satisfied with the level of service it provided to its customers during the incident, it is not complacent in its resilience and its response to future, similar events.

#### 2.4 Event –immediate aftermath.

88,000 people saw the Company's tweets, 5,000 read and retweeted them. 224 twitter users who asked the Company questions were responded to individually. In order to better understand how well we performed, the Company asked 224 customers who had contacted us through twitter to provide feedback. The responses received were positive with 100% of responders trusting Portsmouth Water as their water supplier.

In accordance with Company procedures, the company undertook a lesson learnt meeting which identified 26 items for improvement.

### 3 Lessons Learnt and Future Actions.

#### 3.1 General

Described below are the responses to the freeze thaw event. These are divided into the key areas associated with the incident.

#### 3.2 Governance

Ofwat recommendation

##### *General*

*Water Companies should update their governance processes to ensure that these are fit for purpose and function effectively. This should include considering whether current triggers for escalation are appropriate. They should engage with other companies and key stakeholders as part of the process.*

##### Portsmouth Water Response

As a small water only company located at one site, an incident management team can be formed in a matter of minutes. In addition, our flat corporate structure enhances the effectiveness of issue escalating. One or more Directors are typically present at the incident management meetings and, depending upon the severity of the incident, may be actively involved or may adopt a role of governance; ensuring key decisions are right for both customer and company. After reviewing our current emergency response plans and taking into account recent events, the Company is satisfied that its current measures are fit for purpose and function effectively. Portsmouth Water will keep these plans under constant review. Liaison with other stakeholders is considered later in this report.

#### 3.3 Customer Service, Communication and Support

Ofwat Recommendation

##### *General*

*Develop or update a comprehensive crisis communication plan for how it will communicate with customers, local partners, water retailers and its own employees before, during and after major incidents. Lessons and key findings from this report should also be incorporated into companies' ongoing customer and stakeholder communications. (Also in the specific letter)*

##### *Specific*

*The Company needs to assist its customers in preparing for the winter.*

*The Company needs to review the communications it has had with business customers to check for leaks.*

*The Company needs to set out the procedures for engagement with the wider stakeholders.*

## Portsmouth Water Response

The Company is undertaking a number of measures to continue improving its communication with customers.

We are proposing to enhance our existing message to customers before and during the winter period. Information will be published about the sensible preparatory measures customers can take to avoid internal plumbing issues during the winter.

In early Autumn we will liaise with retailers to ensure they also provide enhanced advice to NHH customers on winter preparation and if necessary we will provide advice directly to some NHH customers such as caravan parks (before they close for winter), or farmers, which experienced significant damage to their networks that resulted in high leakage. We will also work with retailers throughout the winter to send out messages to all non-household businesses.

We will also ask retailers to provide us with up to date contact details (not for billing but emergency conditions) so that we can liaise with NHHs and resolve their issues in a timely manner. The company took the approach of treating small businesses and other NHH customers the same as our HH customers during the incident.

We will, as usual, issue press releases to advise customers how to protect their internal plumbing during the winter and post these messages on our website.

During the freeze/ thaw our direct liaison with key stakeholders as described in section 2.2 was successful, but for future incidents we are proposing to make contact with them well before the event occurs (if prior warning is available). This will provide key stakeholders such as customers, local resident associations, council leads and mass media outlets the opportunity to spread preparation messages prior to a thaw. We will use a variety of media channels from phone calls and traditional press releases to text, twitter and Facebook feeds. This will ensure our customers are as informed and prepared as possible before the event.

We will then utilise the same method during the event to provide updates to as many of our customers as possible; informing them of progress if they are experiencing an interruption to their supply. We will also aim to respond to as many direct tweets as possible in the shortest possible time-frame to ensure their queries are answered in a timely manner. In addition, we will still utilise our customer services team, as normal, during an incident to handle calls into the business as there are still many of our customers who use social media in a limited form and prefer the telephone as their primary form of contact. The company often has stands promoting its message and seeking customer feedback located in shopping centres across the supply area. We will utilise these to provide free pipe and outside tap insulation together with a revised version of our current winter preparation leaflet.

Some companies reported inefficiencies in the way they reported sit' reps' to Government agencies and LRFs. The length of time it took to provide an update was too long and significant amounts of



time were also being wasted repeating the same message to different organisations. Portsmouth Water will work with other water companies, DEFRA and Water UK to make the sit' rep' communications more efficient going forward.

The Company's internal communications will remain largely unchanged. Email is the primary communication tool used to inform and request action from staff during an incident. This is followed by face-to-face conversations with key staff to confirm their availability before the incident and collect any contact details. Operations staff are contacted typically by company mobile phone or van radio. Understanding the availability of staff can be time consuming so the Company is proposing to compile a list of staff who are prepared to volunteer during an incident. This will save a significant amount of preparation time enabling a faster event response. The list will be compiled in late autumn prior to the coldest time of the year.

The Company has a memorandum of understanding with West Sussex County Council on the notification trigger levels. This mirrors the conditions identified in the document Criteria for Reporting Water and Sewerage Emergencies to DEFRA . The same conditions are applied to Portsmouth City Council and Hampshire County Council. If the trigger levels have been met during an event Portsmouth Water will manage communications, which will be relayed, or in the case of social media, retweeted, by the council(s).

We will continue to review and document our customer communication strategy after each event.

### 3.4 Vulnerable Customers

#### Ofwat Recommendation

*Water Companies should improve their information regarding customers in vulnerable circumstances. Companies should work collaboratively with local partners to gather more information about which customers are in vulnerable circumstances, how this can vary over time and by incident and consider how best they can support them. Companies should consider the vulnerability focus report Ofwat published in 2016 and the 2017 UKRN report on data sharing.*

*Ofwat also believe that individual companies priority Registers do not adequately capture all customers who may need additional support.*

#### Portsmouth Water Response

The Company acknowledges that its priority services register is not as full as it could be. Most water companies have experienced the rapid increase in customers describing a vulnerability whenever a significant outage occurs. Whilst the company is proud of its low number of outages it is unacceptable to use this as an excuse to explain deficiencies in the register. As a consequence, we have provided a dedicated resource to work on improving the register. Portsmouth Water is already liaising with SSE (Scottish and Southern Energy) and Southern Water to compare priority lists and improve both the volume and accuracy of information held. In addition, it is working to better understand the definitions of vulnerability and what constitutes transient vulnerability (e.g. a heavily pregnant woman or someone living alone recovering from an operation) together with their requirements. This also includes small businesses and farmers that suffer disproportionately compared to larger companies during a water supply outage. Preparation is key to responding quickly to customer's needs and so the Company will continue to liaise with third party organisations such as Age Concern and the Local Resilience Forums to identify and add customers to the list who have a genuine vulnerability.

### 3.5 Customer Contact Information

#### Ofwat Recommendation

*Improve the quality and provision of contact details that companies have for their customer. The onus is on companies as service providers to keep customers informed. The process of regularly updating and improving customer contact information will be enduring for companies, but we expect to see progress made and clear actions set out for how the company will continue to improve in response to this report.*

*Water Companies need to demonstrate that it will use a full range of communication methods to reach out to customers and keep them informed.*

#### Portsmouth Water Response

Portsmouth Water is constantly trying to improve the data held on its customers and our customer service teams are trained to ask if a customer has a vulnerability that we should be aware of. But, in addition to this, we are challenging the relationship we have with our customers with the objective of providing key information to them in a timely, effective manner. We are working with a consultant, Computer Share, to generate added value so that unnecessary communication is minimised but customers receive key information in the way they want at the right time. The industry was criticised for its overreliance on social media. Better use of e-accounts with emailing and text messaging options will improve the company's range of communications to customers. It is anticipated that this will be in place within the next 12 months.

We will also ask retailers to provide us with up to date contact details (not for billing but emergency conditions) so that we can liaise with the NHH and resolve their issue in a timely manner.

### 3.6 Alternative Water

#### Ofwat Recommendation

*Develop or update their plans regarding the provision, deployment and delivery of alternative water supplies (for example bottled water or water bowsers) in light of the key findings of this report. Companies should develop these plans together with local partners and emergency services to ensure a co-ordinated approach.*

#### *Specific*

*Alternative water supplies: Portsmouth Water acknowledged that it would have struggled to manage the logistics of obtaining sufficient supplies of bottled water. Mutual aid would not be an option. How is the company adequately prepared for a repeat incident.*

#### DWI Recommendation

*The inspectorate recommends that water companies review the adequacy of current arrangements for meeting their statutory requirements for provision of alternative supplies, including procurement of bottled water stocks, during widespread insufficiency events such as this.*

#### Portsmouth Water Response

Whilst the Company did not need to provide alternative water supplies (AWS) to customers during the freeze/thaw, other companies reported difficulties in communicating the locations of supplies

effectively. Portsmouth Water is investigating options to pin the location of AWS onto a map and provide this information to customers by entering their postcodes. Mass media such as radio and television broadcasts will be used to point customers towards the website. The policy of providing alternative water locally at locations close to post boxes still remains and will provide a clear simple way of describing the locations of alternative water to our customers.

The Distribution and sufficiency of alternative water supplies was a clear problem to companies in the South East who relied on third parties to provide logistical support during the freeze/ thaw supply interruption. There wasn't enough water to meet the needs of companies requesting support and where water was available, it was either in the wrong place or was held by the wrong alternative water supplier. Portsmouth Water is working with other companies and Water UK to discuss options to help mitigate this issue. Options currently under discussion include, but are not limited to, a national bottle bank.

Until now the company has provided alternative water using Arlington tanks, bowzers and bottled water (to vulnerable customers) without assistance. One of the lessons learnt from other companies is that regardless of the failings of the alternative water suppliers during the freeze/ thaw event, logistical support is required during an incident, particularly if the requirement is beyond AN9 levels. To that end, we are about to award a joint contract with SES Water for the provision and distribution of alternative supplies from a third party organisation. In addition, we are proposing to increase the stock of bottled water held during the winter months to help reduce the pressure on third party provision of bottled water beyond the requirements of SEMD AN9.

### 3.7 Resilience

#### DWI Recommendation

*DWI recommends that all companies review their contingency plans to ensure their treatment of assets and sites are resilient and that critical failure points are identified and feed into their risk assessment for extreme cold weather events.*

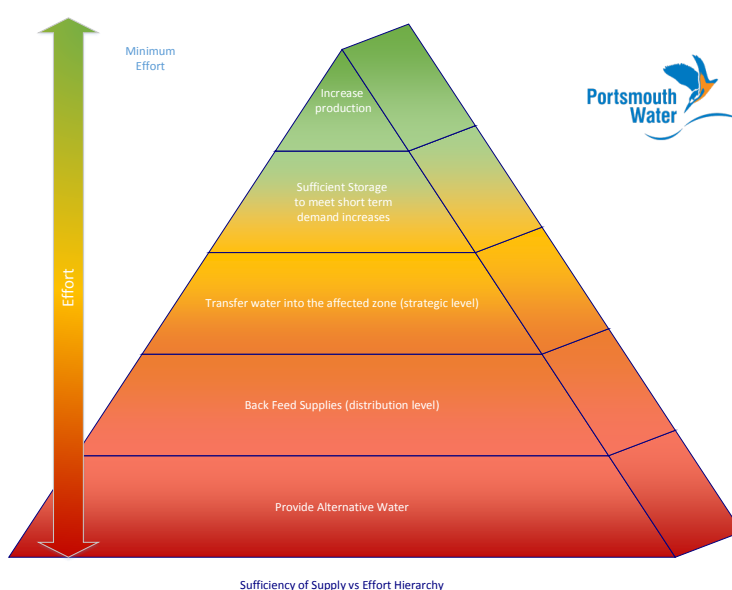
*The inspectorate recommends that all companies review the resilience of their water supply networks to withstand significant weather related challenges.*

#### Portsmouth Water Response

The Company believes that the provision of alternative water is a last resort when all other options have been exhausted and that spending on infrastructure should be tailored to reduce the likelihood of a supply outage to a minimum. The diagram below demonstrates the hierarchy of options.

This long held view has meant that 99.7% of customers of a population of 700k are supplied from Service reservoirs each typically providing 2 days storage. The Company can sustain the loss of any single treatment works during average demand conditions with no properties being at risk.

The trunk mains network allows water to be transferred between many of the reservoir zones providing a level of resilience that helps reduce the likelihood of customers experiencing an outage. Our capital investment in renewing approximately 1% of our network each year has reduced bursts from approximately 1,000 in 1990 to just over 200. Our continued capital investment in resilience in AMP7 will maintain low burst rates and further enhance our water transfer capability.



Portsmouth Water therefore has infrastructure designed and maintained to provide sufficient resilience to help it stay within the top 3 tiers of the triangle during the majority of water sufficiency incidents.

The Company is working with other water company's and Water UK to identify an industry standard method of measuring operational resilience. This will provide both individual companies and regulators with a standard way of assessing resilience across the industry. Portsmouth Water currently uses an annualised demand deficit (MI/Year) to measure resilience, which takes into consideration the likelihood of an asset, or multiple assets, failing combined with the impact it has on the network and customers' supplies. This is then annualised. We have assessed 888 scenarios with up to 6 asset failures occurring simultaneously (under different failure scenarios) to better understand our resilience deficient areas. The proposed mitigation measures for the key deficiencies are identified in our AMP7 PR19 Submission.

### 3.8 Bulk Supplies

#### DWI Recommendation

*The DWI recommends that all water companies review both their contingency planning arrangements and bulk supply contract arrangements to ensure that sources they may need to rely on to maintain supplies to consumers will be available when needed.*

#### Portsmouth Water Response

The Company currently has two bulk supplies at the furthest west and east points of its supply area. Both supply Southern Water (SWS) with up to 15MI/d. The east bulk supply agreement is based around mutual risk. The supply is usually provided when Southern Water (SWS) are undertaking planned maintenance or have a problem with their production system. Therefore the supply is only used when absolutely necessary. The water is called upon by SWS if they need it and Portsmouth Water will supply the water on a best endeavours basis. Whilst the likelihood of their request being denied is low, if the Company cannot supply the water to SWS then they must make other

arrangements. Neither Portsmouth Water or SWS considers it necessary to renegotiate this agreement at this stage.

The water resource position to the west of the Company's supply area is more critical and SWS's requirement for water will be regular. After making a detailed assessment of our own water resources together with the risks associated with a significant increase in demand we are able to guarantee the bulk supply to SWS from our Itchen works. This supply is currently being commissioned and will be available during the to 2018/19 winter.

### 3.9 Asset Failure and Planned Maintenance

#### *Ofwat Specific recommendation*

*PRV failure: Portsmouth Water needs to consider what steps it needs to take to minimise the risk of a similar incident occurring again.*

#### DWI Recommendation

*Some companies had assets out for maintenance. The DWI recommends that companies review whether these sites might be made available for contingency purposes.*

#### Portsmouth Water Response

The Company has two Pressure Relief Valves (PRVs) that supply Portsmouth City; Hilsea and Farlington PRVs. Hilsea PRV is the main way of controlling supplies into the city. At the time of the incident, this valve was out of service waiting for a new actuator to be delivered and so the standby PRV, Farlington, was being used instead. The failure of mains electricity supply at either site would typically not have been a problem if both sites were working. A power failure would have been detected at one site and the other would have automatically taken over. However, a power failure at the only working site resulted in customers' supplies being affected and meant the severity of the incident was directly proportional to the response time. Whilst the 169,000 residents who experienced low pressure for 1.5 hours was disappointing, the speed of our response in opening the valve manually and connecting a standby generator quickly meant customer impact was as short as practicable. To ensure the likelihood of a repeat incident is minimised, planned maintenance on critical assets will be considered with greater reference to weather. In addition, we are working to ensure both valves are operational before the winter together with the installation of an uninterrupted power supplies at the Farlington site. This will to keep the valve operating for a minimum of 30 minutes in the event of a power failure. This is considered a sufficient duration for our staff the reach the site and control the valve manually ensuring customers' supplies are unaffected.

Better management of production headroom resilience is a lesson learnt from both the freeze/ thaw and the 2018 high summer demand period. Like most companies, Portsmouth Water aims to undertake planned maintenance at its operational sites during periods of low demand. Site outage, planned or unplanned, reduces production headroom, lowers resilience and increases the likelihood of customers experiencing an interruption to supply. The ability to return key operational sites to service if an event is predicted is essential to providing an acceptable response to maintaining customer supplies. Our lessons learnt proposal applies to planned works that require a site to be off-line for a period between November and the end March. A score relating to the loss of headroom will be applied on any site switched off for planned maintenance. In addition Portsmouth Water's capital investment delivery team will assess how quickly a site can be returned to service (whether

the work has been completed or not). This will enable the production team to better assess the risks associated with undertaking work on a site. If a significant thaw has been predicted, then an emergency return to service action plan can be drawn up to improve resilience back to acceptable levels.

### 3.10 Emergency Plans and Liaison with Relevant Partners

#### Ofwat recommendation

##### General

*Update emergency response plans to take into account the lessons and key findings of this report. These plans should be developed and co-created, where appropriate with relevant partners – including (but not limited to) local resilience forums, local councils, other water companies, large users and emergency services. Companies must ensure that these plans are regularly updated and tested, to consider a range of scenarios and severity of incidents affecting service for customers, as part of the security and emergency measures direction (SEMD) process.*

##### Specific:

*Robust evidence of Portsmouth Water's emergency planning, response and communication procedures was not evident in the submitted report. The Company should ensure all documented systems are appropriate and up to date with the latest industry learning,*

*The company should stress test all aspects of its planning and organisational response structures to ensure that they are robust enough to cope with a more significant event or multiple events.*

#### DWI Recommendation

*The inspectorate recommends that all companies review their preparedness and ability to respond to forecast of severe weather that may present a risk to sufficiency of water supplies, to limit the scope and duration of potential consequences for consumers.*

#### Portsmouth Water Response

Portsmouth Water has a fully documented Emergency Plan including communication, however in response to the incident it has reviewed its plans and has taken the decision that the Freeze/ Thaw incident requires an event specific plan. To that end we are writing a plan based on our current procedures but tailored to ensure the lessons learnt, regulatory review findings and proposals set out in this report are included. It will also follow the proposals established by the Industry as part of Water UK's work. It will include details on the preparations required in advance of a rapid thaw as well as the response to incident itself. The plan will combine, enhance but not be limited to the following existing plans.

- EMP 3.0 Emergency Plan for Distribution
- EMP 4.3 Event Management Team Actions
- EMP 4.4 Communications team actions
- EMP 4.8 Customer communication plan
- BCP 2.3 Loss of staff
- BCP 2.8.3 Departmental Continuity Plans: Distribution
- BCP 2.8.9 Departmental Continuity Plans: Supply

- BCP 2.8.10 Departmental Continuity Plans: Water Quality

We test our Emergency Plan at least once per year and more if we have incidents. We will in the next few months undertake an exercise which tests an incident with greater severity than happened in March.

The event specific plan will be discussed at our meeting with DEFRA on 30 October and with our SEMD certifier at Resilience First Associates to demonstrate to the Board that the plan is sufficiently well developed and effective to be applied.

Access to treatment works following significant snowfall could present operational difficulties in reaching production sites. Pumping stations and treatment works are typically located in rural areas away from main roads. Loosing these sites potentially impacts on the Company's resilience but also increases the likelihood of a customer outage occurring. The Water UK workshops have identified the inconsistent relationships water companies have with LRFs. In particular, LRFs understanding of the impact of losing a WTW needs to improve. Their responsibility to identify roads that need to be kept clear during a national event needs to be better understood. Portsmouth Water will work with Southern Water to ensure LRFs in West Sussex and Hampshire understand their responsibilities.

### 3.11 Mutual Aid

#### DWI Recommendation

*DWI recommends that all water companies review their own capacity and that available within mutual aid requirements for dealing with events of this type.*

#### Portsmouth Water Response

As one of the smaller water companies with less resources available but the same legal obligations as larger WaSCs, Portsmouth Water considers the use of mutual aid to be an important facet of emergency planning and response. The failure of mutual aid to work effectively during the recent freeze/ thaw incident demonstrates the scale and severity of the event. Portsmouth Water is working with Water UK and other water companies to better understand how mutual aid might remain effective during similar future events.

The Company also understands its responsibilities in getting staff to the operational sites in a safe manner. We currently have four 4 x 4 vehicles but are investigating options to hire AWD vehicles under our current car hire framework. This follows the benefits realised by Bristol Water in transporting customer service and operational staff using hired 4 x 4s during the event.

### 3.12 Supply Side Leaks

#### Ofwat Recommendation

*Water Companies should consider their approach to proactively fixing customer side leaks, working with customers and the supply chain, where these leaks are threatening the supply integrity of the network.*

#### Portsmouth Water Response

The increase in demand experienced on the 2-3 March had decreased significantly by Monday 5<sup>th</sup> as customers fixed leaks located either internally or on their supply pipes. Portsmouth Water already



offers customers 1-2 free repairs on their supply pipe, depending on the asset condition, and from 2020 will effectively “take ownership” of all supply pipes to properties supplied via Wall Mounted Meter Boxes (WMMB) offering unlimited supply pipe repairs or replacements. The Company has been fitting WMMBs since 2005 equating to in excess of 26,000 homes. As previously stated in this report we will liaise with retailers to ensure they also provide advice to NHH customers on winter preparation and if necessary provide advice directly to some NHH customers such as Caravan parks, which experienced damage to their networks that resulted in very high leakage.

### 3.13 Water Network Data

#### Ofwat Recommendation

*Improve the quality of data they have to be able to more quickly and accurately predict and identify network issues. This could involve reviewing ways to improve their forecasting models so that the company can better understand and estimate the impact of severe weather incidents, including understanding where and why recurrent supply problems are taking place. This should involve engaging with other companies, the supply chain and different sectors.( for example energy) to learn and share best practice. This work should be underpinned by developing a data strategy and data owners.*

#### Portsmouth Water Response

The Company is undertaking a number of measures to better understand the size and location of leaks in as near to real-time as possible. The PR19 vision is for a ‘smart network’ to provide data that can better inform the company of network issues. The company is investing in low cost high speed data transfer using the SigFox network. This will help provide some real-time telematics on certain trial areas of the network. In addition, the Company has invested in Flowsure self-learning anomaly detection software for leakage. This has the ability to detect leaks before they happen and provide leak location information previously unavailable. This will reduce the length of time taken to ‘pin-point’ the leak thereby improving the productivity of our leak detection crews. To provide greater granularity to leakage detection, the company is also investing in a fixed, smart network of permanent leak noise correlators. These provide additional benefits over the traditional metered and sub metered zones.

### 3.14 System ‘105’

*Recommendation from Therese Coffey MP for the industry to review the benefits of a system such as ‘105’ used by the electricity network operators to assist customers in swiftly reporting issues.*

#### Portsmouth Water response.

Portsmouth Water is working with other water companies and water UK to understand if a system such as ‘105’ could be translated into a water industry model without it becoming administratively burdensome. Water UK will respond directly to regulators on its findings.

## 4. Conclusion

The letter from Ofwat acknowledged that Portsmouth Water coped well with the freeze- thaw event in March. We demonstrated that our infrastructure is resilient, we were prepared and that we worked hard to maintain supplies during the cold spell - putting the customer first. However, this report demonstrates that there are a number of lessons to learn particularly in relation to



communication with customers both in preparation for severe weather and during an incident. We have and will continue to revise our communication channels with the emphasis on preparation.

In undertaking our reviews we have reflected the recommendations from Ofwat and the DWI. We have also participated in the Water UK work and will adopt the proposals set out by Water UK.