

Freeze Thaw - Incident report

For Ofwat

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Executive Summary

This report is our response to a review by Ofwat of all water companies' performance during the freeze/thaw event in February and March 2018 which caused disruption to a large number of customers across the UK.

South East Water has a set of emergency plans for extreme cold weather and these were used from the 21st February for pre-planning and, after the Met Office issued its first yellow warning for snow in our region on the 26th February, the Company set up an incident team led by Directors and Senior Managers. The incident team ran through to 9th March.

Although prepared, the nature of the extreme weather, a significant snowfall with temperatures dropping below -11 °C and remaining below freezing for a number of days followed by a rapid rise in temperature and thaw, led to an event of unexpected magnitude. It was the speed of the event, and in particular the impact on customer pipes that drove a rapid increase in demand over a period of one day, which we have not witnessed in the past. This emptied a number of our service reservoirs and caused the disruption to customer supplies. Our analysis shows:

- Distribution Input (DI) increased significantly across the supply area from 515.0 MI/d before the thaw to 634.7 MI/d (an increase of over 20% in 48 hrs) when the thaw started.
- Additional technical and repair resources had been mobilised to ensure we could cope with a thaw and repair pipes quickly. In a typical day we repair 8 burst mains and around 20 communication pipes. During the incident the maximum number of reported bursts on our network was 39, not exceptionally high, and our response time was good.
- The total leakage from the bursts and leaks repaired on our network was approximately 18 MI/d, leaving some 100 MI/d primarily the result of leaks on customers' pipes, and/or customers running taps to stop their supplies freezing, and frozen cattle troughs or field supply leaks
- There were just under 27,000 of South East Water's 900,000 customers (as connected properties) who experienced an extended interruption with nearly 6,000 having no water for more than 48 hours between the 3rd – 7th March.

The impacts of severe weather is a key operational risk that the Company has contingency plans for. A number of communications with customers and stakeholders occurred before the cold weather set in to encourage people to protect their plumbing from the cold and this messaging and advice was increased once the snow arrived.

Stocks of bottled water are in place for incidents, but with other water companies also making the same requests of suppliers, and the weather making driving difficult, there were some delays in getting sufficient supply to bottled water stations. Attention was initially focussed on vulnerable customers, critical infrastructure (hospitals), and livestock owners via a dedicated team. We also provided static tanks of non-potable water from the 6th March for toilet flushing.

Throughout the period all urgent leaks were repaired within 24 hours. Properties, where there were leaks, were isolated and we used our in-house plumbing service to make repairs to

customers' pipes. This period of recovery, engaged additional staff from across the Company, and involved us working closely with local resilience forums, other water companies, agencies and the media.

Throughout the incident we used TV, radio, website, social media and our call centre to keep people informed. We ensured all customers on our Priority Services Register were supported through our Customer Care Team. During the incident our website had more than 300,000 visits and we updated information 242 times between the 3rd and 8th March.

The demand reduced as we repaired the bursts on our network and customers repaired the leaks and turned off taps on their properties. This enabled the Company to refill the network and get customers back on supply. All supplies were restored by the 7th March.

When the incident was over we wrote to all customers impacted offering our apologies and providing compensation payments totalling £1.3m.

We did receive praise from the media, customers and wider stakeholders. Some examples of good practice were:-

1. Our early planning for cold weather, the setting up an incident team as soon as risks materialised including a dedicated network team to prioritise leak detection.
2. Our use of online communications, including Facebook Live, worked well with 320,000 visits to our website and regular updates of information and FAQs for customers.
3. Our work with vulnerable customers and critical infrastructure ensured hospitals were protected and we reached all on our Priority Services Register.
4. Close working with the resilience forums, which gave us access to support with both vulnerable customers and, being a rural area, livestock. The emergency services helped to fill bowsers for farmers, while the councils and health services used their networks to ensure appropriate contact with vulnerable customers.

The Company is undertaking research on the impacts that the event with our customers, with our staff and with the other parties we worked with and will be implementing the lessons learned.

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1. Section A: Factual details of freeze/thaw events

A1. Provide details of the impacts of events on your network / customers using the attached tables (please complete both sheets). We are requesting information from the period 14 February 2018 to 14 March 2018. Please specify on which dates your company considered it was managing events rather than business as usual (the end date should be no earlier than all customers being back on supply). If you consider it appropriate, you may extend the date range (e.g. to the start of February) and explain why additional dates are relevant. You may not reduce the date range.

Cold temperatures, followed by thaws, cause freezing of water in pipes and ground movement which in turn result in increased leakage on our network and customers' pipes. This causes an increase in demand for water and can cause interruptions to customers supply. It is a key operational risk that the Company plans for. We use data provided by the Met Office to help us to identify events in advance so these plans can be enacted.

From the 14th to 16th of February our network was operating as normal. Leakage levels were low and the year-to-date interruptions figure was below the target we have agreed with Ofwat (known as a performance commitment).

On the 16th February the Met Office provided an early warning of the potential for very cold weather and snow for the UK. Over the following few days the detail around that forecast improved.

On the 21st February, in light of the early weather warning, preparations for a cold weather event began. Initial activities included: -

- Resources were assessed and re-allocated
- Planned (low priority) work was postponed
- Additional four by four vehicles were hired
- Bottled water stocks were reviewed
- Health and Safety notices were issued and cold weather equipment was checked and any missing equipment was purchased
- Planned work at treatment works was expedited

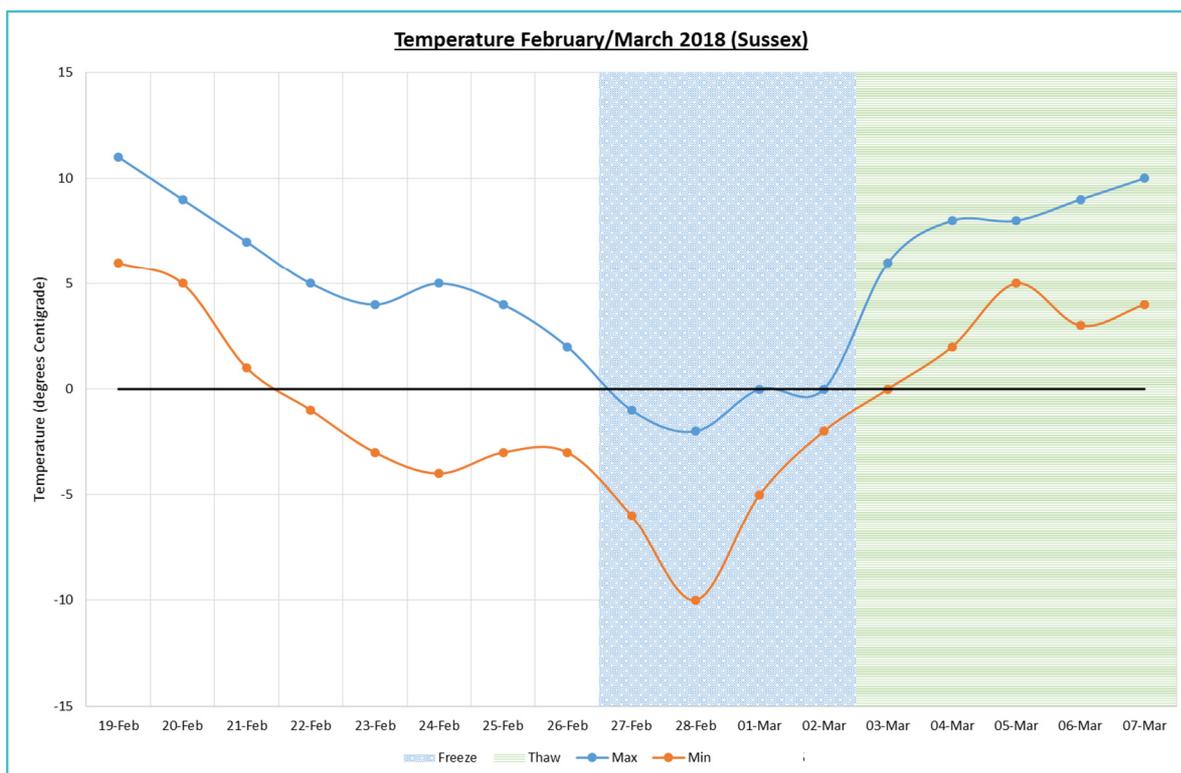
It was on the 23rd February that the Met Office first issued a warning for the Company's supply area (a yellow warning, with a low likelihood for snow on the 26th February). By the 25th February the likelihood of snow had increased to high, with the overall warning remaining 'yellow'

On the 26th February, given the cold weather forecast for the coming days, the Company mobilised a Level 2 incident team, managed by the Head of Networks. Met Office data was reviewed daily, and the team used models, developed with the Met Office, to forecast the impacts of the cold weather on service. During the day the weather warning for the 27th was increased from Yellow to Amber with a high likelihood for further snow. The Company’s incident team plans focussed on mitigating the impacts of snow and cold weather. There was minimal impact to customers during this period of very cold weather.

Further preparations were undertaken on the 27th and 28th February, with the focus on increasing storage levels in areas where we had recently returned water treatment works and service reservoirs back into service, and mobilising additional resources for the weekend in anticipation of a leakage outbreak as the weather warmed. Despite the difficult operational conditions caused by the snow and freezing temperatures, service was maintained to customers.

Daily phone calls were held with Met Office specialists from the 1st March. In light of the thaw the Incident Team raised the incident Level to 4. Initially Met Office reports showed the thaw would be gradual, and take until the 5th March, but on the 3rd March the Met Office forecast changed, to forecast a quick thaw on the 3rd and 4th March.

The figure shows the temperature data for the Sussex Area

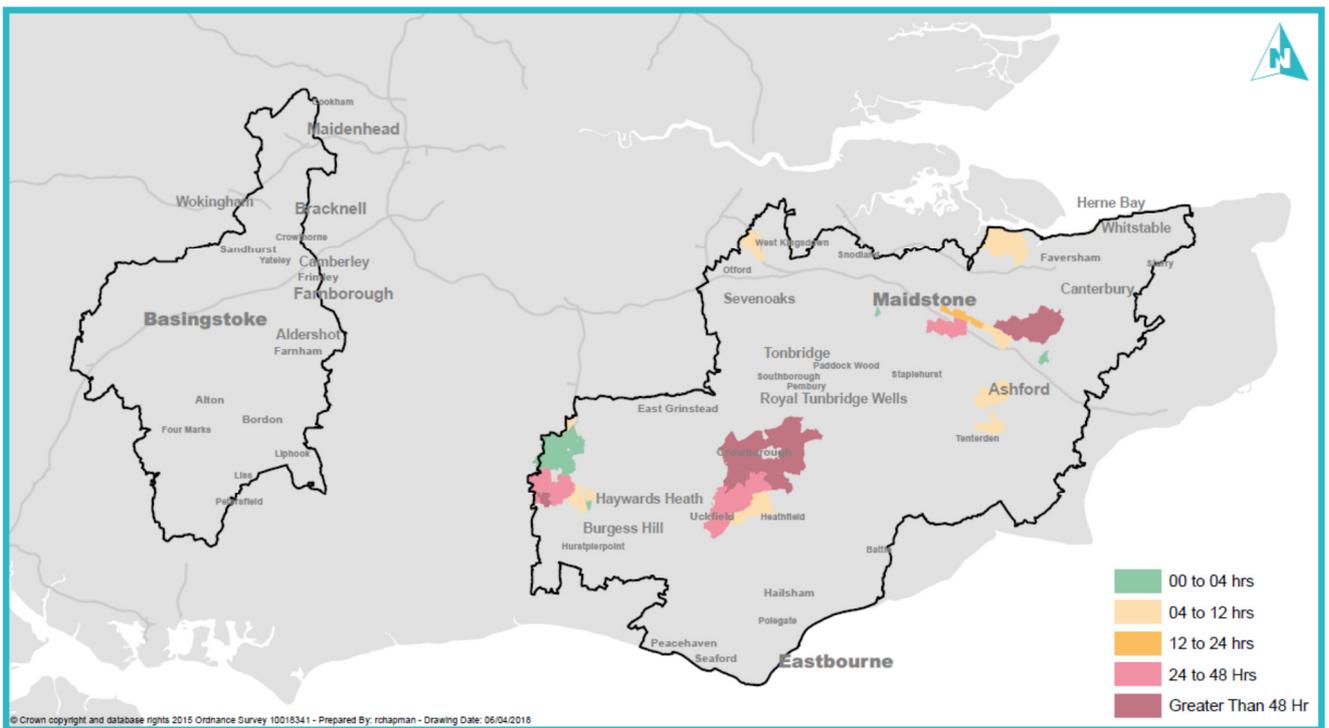


During the thaw over the weekend of 3rd and 4th March, three areas were significantly affected, two in Sussex and one Kent: -

- Area 1: supplying the Wadhurst, Mayfield, Rotherfield and Crowborough areas, fed from Cottage Hill, Cuckfield and Best Beech Service reservoirs.
- Area 2: supplying the Cuckfield, Bolney, Warninglid and Haywards Heath area, fed from Butlers Green, Cuckfield reservoirs and Warninglid Tower.
- Area 3: supplying the Charing area north of Aylesford, fed from Warren Street, Wellwod and Potters Corner reservoirs.

There were less significant impacts in other parts of Kent, which were resolved within 12 hours. There was negligible impact on customers in the Western Region of the company.

The map shows the affected area and the location of repairs



During the first day of the thaw (3rd March), distribution input increased by 104.5 Ml/d, over 20%, to the highest levels experienced in March on record. The reservoirs at Cottage Hill, Best Beech, Butlers Green and Cuckfield and Warninglid Tower all experienced high demand and storage levels could not be maintained and dropped significantly.

As a result, customers in these areas experienced disruption, with some customers, typically those on higher ground, subsequently having no water supply for a number of days. Other customers experienced low pressure and/or intermittent supplies.

In the period from the 4th to the 7th March staff and contractors worked to recover the situation. The incident team continued to operate 24 hours a day, and focussed on repairing leaks, changing the network to bring supplies into the areas most affected, providing bottled water, communicating with customers to repair leaking pipes and leaking taps and supporting

vulnerable customers. On the 6th of March static tanks of non-potable water was provided for toilet flushing. By the 7th March all customers had their supplies restored and on the 9th of March the incident team stood down.

The Company is undertaking detailed modelling to determine exactly which customers received no water and which had low pressure. This is complex to determine because of the topography of the area and interconnectivity of the network. In the first instance the Company has assessed that the following number of properties were affected, with either low pressure or no supply for some part of each day.

Table showing the number of properties affected by either low pressure or interruptions (note some properties were affected for multiple days)

	3 March	4 March	5 March	6 March	7 March
Number of customers experiencing supply interruptions at some point during the day	4,780	17,358	23,161	15,480	4,293
Number of customers experiencing low pressure at some point during the day	1,319	5,950	3,210	1,1754	327

Compensation was paid to all of these customers (households and businesses via their retailers) on the basis that they had no supplies. A number of these customers have since confirmed that although compensation was paid to them, they did receive supplies throughout the period.

In terms of “Incident Management” the Company therefore identified the issue on the 21st February, when the Met Office began to produce more detailed forecasts, and before any customers were affected, and maintained an incident team through to the 9th March. During this period existing plans to deal with cold weather were implemented and then adapted to deal with the additional impacts experienced.

The table below summarises the key dates and events: -

Date	Key Events	Comments
16 February	Met Office issued initial press release forecasting snow and cold weather	Insufficient information at this point for the company to begin detailed planning.
21 February	Met Office provides more detailed information on the weather. The Company starts to prepare for the cold weather, with the Head of Networks taking the lead.	Pre-planning takes place between the 21 st February and 26 th February. Minimum temperatures begin to fall after the 24 th February. On the 23 rd February we provided tips on how to beat the freeze on our website. Yellow warning for snow issued for the Company area on the 23 rd Feb for the 26 th .
26 th February	A level 2 incident is declared. The Company sets up an incident team to prepare for the	There was no impact on customers but the risk to supplies had been identified. The company was in a formal incident mode. An incident team was formed. This was managed by the Head of Networks and included

	<p>cold weather. The plans prepared between the 21st Feb and 26th February were implemented.</p>	<p>Directors, Operations, Communications, Assets and Customer Services. Minimum temperatures continued to fall and on the 28th February the temperature did not rise above freezing. There was snow fall in our region from the 26th February to 2nd March. The number of burst mains and leaks was low.</p>
<p>27th Feb to 1st March</p>	<p>The incident team was maintained 24 hours per day, with the Head of Networks managing the incident team. It remained cold. Customers rang the Company as their pipes became frozen.</p> <p>Daily calls with the Met Office were held from the 1st March. The Met Office suggested that the thaw would be gradual.</p>	<p>On the 27th of February we provided specific information via social media and the website on how customers should lag their pipes given the forecast of cold weather.</p> <p>On the 28th of February we advised customers via social media about what to do if they had no water due to frozen pipes.</p> <p>There was some increase in the number of burst mains. Average repair time remained good.</p>
<p>2nd March</p>	<p>Minimum temperature of minus 7.0°C and maximum of +1.7°C.</p> <p>There was an increase in the number of burst mains from 19 on the 1st March to 34 on the 2nd March. At 2pm the incident level was raised to a four. The incident team was led by the Head of Central Operations and the Head of Production on a rota basis. The Head of Networks managed the tactical location and repair of leaks and bursts.</p>	<p>Whilst the number of burst mains increases, the additional resources mean that repair times were good. There was an increase in Distribution Input from 515MI/d to 530MI/d.</p> <p>There was minimal disruption to customers other than their frozen pipes.</p>
<p>3rd March</p>	<p>Met Office advice that the thaw will be gradual changes and the Met Office suggest that the thaw could be rapid.</p> <p>Temperatures rose from -5.9°C to +7.5°C. There is a widespread thaw. Distribution Input rises from 530.1MI/d to 634.7MI/d.</p> <p>There was a decrease of burst mains from 34 to 15. The response rate for repairing those burst mains remains good.</p>	<p>All available distribution and leakage technicians are directed from the Morley Road tactical centre. Leakage data is recalculated every two hours.</p> <p>There was evidence of widespread breakout of leaks on customer supplies. Bottled water was organised and additional supplies were ordered for hospitals, farms etc.</p> <p>There were discussions with Southern Water regarding the availability of bulk supplies which had been turned off.</p>
<p>4th March</p>	<p>There was cold weather overnight (-3.7°C) followed by another rapid thaw (+8.7°C).</p> <p>Distribution Input remained high (624.0 MI/d).</p>	<p>Leakage and Distribution Staff continued to identify leaks and volunteers from the business were allocated DMAs with high use/leakage to investigate. 35 mains leaks and bursts were found.</p>

	<p>The number of burst mains increased to 35, high but not exceptional. There were sufficient repair teams to maintain good performance on repair times.</p>	<p>Alternative water was supplied to impacted areas, however Water Direct were unable to meet our requests given the regional scale of the incident. Critical infrastructure was maintained and vulnerable customers were supported.</p> <p>There were continued discussions with Southern Water regarding the availability of bulk supplies as these were still unavailable.</p>
5 th March	<p>The weather was milder. DI fell from 624.0Mld to 567.6Mld/d.</p> <p>The number of burst mains remained higher than normal (29) but not exceptional.</p>	<p>Alternative water continued to be supplied and was distributed to bottled water sites using our repair gangs.</p> <p>The focus remained on critical infrastructure and vulnerable customers.</p> <p>Additionally static tanks and bowsers were used to provide livestock owners with water</p>
6 th March	<p>The temperature remained above freezing. DI fell from 567.6Mld/d to 549.7Mld/d.</p> <p>The number of burst mains remained high (29) but was not exceptional.</p>	<p>As the areas impacted reduced alternative water provision was increased for those areas affected for more than 48 hours to included static tanks and 5 litre grab bags for flushing use.</p> <p>Alternative water continued to be supplied. Additional static tanks of non-potable water was provided for toilet flushing.</p> <p>The focus remained on critical infrastructure and vulnerable customers.</p>
7 th March	<p>The temperature was above freezing.</p> <p>The number of burst mains dropped to 27</p>	<p>All customers had a mains supply and all bulk supplies were restored.</p> <p>Alternative water continued to be supplied however areas were fully restored and activity at bottled water stations was for isolated issues only.</p> <p>All storage impacting critical infrastructure was stable and recovering. The focus continued on vulnerable customers.</p>
8 th March	<p>The temperature was above freezing. The number of burst mains returned to normal levels (19).</p>	<p>All customers had a mains supply.</p> <p>The supply situation started to return to normal.</p>
9 th March	<p>The temperature was above freezing. The number of burst mains stayed at normal levels (19).</p>	<p>The incident team stood down.</p> <p>Compensation payments were agreed and letters were sent to domestic customers on the 10th March.</p>

Compensation and costs of the incident

The current view of the costs to the Company are set out below:

Type	£m	Comments
Compensation to Household Customers	1.1	Compensation paid directly to households (as of 3 April)
Compensation to Retailers	0.2	Compensation paid to retailers (as of 3 April)
ODI impact	2.2	Impact on interruptions ODI target (company was in reward of £0.87m prior to event and will now have a £1.33m penalty)
Operational Costs	0.6	Early estimate
Total	4.1	

We are continuing to investigate the impacts the event had on customers, and once we have completed the survey we will provide an updated summary report to Ofwat.

A2. Beyond the issues highlighted in Tables 1 and 2, please provide details of any further impacts your network or customers (by customer type) experienced that your company had to respond to?

The three areas that were most severely affected are in Sussex and Kent: -

- Area 1: supplying the Wadhurst, Mayfield, Rotherfield and Crowborough areas, fed from Cottage Hill, Cuckfield and Best Beech Service reservoirs.
- Area 2: supplying the Cuckfield, Bolney, Warninglid and Haywards Heath area, fed from Butlers Green, Cuckfield reservoirs and Warninglid Tower.
- Area 3: supplying the Charing area north of Aylesford, fed from Warren Street, Wellwod and Potters Corner reservoirs.

March is generally a period of low demand, and improving weather. We therefore use the time to undertake maintenance at supply and reservoir sites and storage in these areas are reduced. When the cold weather was forecast, the Company expedited these works, to return them back into supply. The largest site (Barcombe WTW) was fully operational by Friday the 2nd March.

The freezing conditions reduced output at a small number of sources which exacerbated the problems caused by the unprecedented increase in distribution input.

Over the course of the incident, the Company received 118 water quality related contacts over nine impacted water supply zones. The majority of contacts (62) were related to white water caused by the presence of trapped air within the drained system. A further 38 contacts reporting brown water were also received, with approximately 2/3 of these within the Trosley WSZ linked to network operations to maintain supplies on the 5th and 6th March. The remaining 18 contacts reported tastes, odours and the presence of particles within the water. We provided specific advice to customers who contacted us with water quality concerns water via phone, social media and our website. The number of contacts is relatively low given the scale of the event, the number of properties affected and the complexity of recovering the situation.

After the event we had a number of contacts for air-locked supplies, at key locations and we employed our own resource to unblock these.

Table showing number of water quality contacts.

WSZ	Brown Water	Blue/Green	General Conditions	Particles	White Water	Chlorine T+O*	Earthy T+O*	Other T+O*	TOTAL
Best Beech	3				1			2	6
Charing	1				7	1			9
Cottage Hill	1			1	9			1	12
Cuckfield	6		1	1	10	2		1	21
Maidenbower					3				3
North Downs	1	1		2	10	1	1		16
Trosley	25		1	2	18				46
Weald	1				3				4
West Ashford					1				1
TOTAL	38	1	2	6	62	4	1	4	118

* Taste and Odour

Due to the high demand a number of service reservoirs were completely drained during this event. Satisfactory sampling was completed at each of these reservoirs on return to supply.

A total of 160 water quality samples were taken from customer properties (102 samples) water treatment works (36 samples) and service reservoirs (22 samples) in the areas affected by loss of supplies between the 3rd and the 9th March. Results of all sampling at WTW and service reservoirs were satisfactory for chemical and microbiological parameters. One sample from a customer property was found to contain a single colony forming unit (1 cfu) of the microorganism clostridium perfringens. Given the widespread nature of the sampling and the satisfactory results from all other samples, including investigation sampling within the area of the failure, this result is not indicative of a widespread water quality issue as a result of this event. This data has been made available to the DWI, as part of the Company's normal event reporting procedures.

A3. Details of how responding to the incident impacted on your wider business’s “business as usual” operations during the incident period. Where possible provide an indication of the scale and nature of these impacts.

Due to the scale of the freeze/thaw incident described, the Company instigated a number of plans that postponed some “business as usual” activities, including a reduction or cessation of non-essential planned work. This did not adversely impact any customers, developers were informed accordingly and urgent issues were still dealt with. This allowed resources to be targeted to resolving customer service issues. This plan included: -

- Suspension of Customer Metering Programme (CMP) activity, and the re-allocation of this field resource to finding and fixing leaks.
- The re-allocation of customer service resource from non-essential activities to the support of the contact management teams.
- Suspension of Developer Services activity - the installation of some new mains and new connections were delayed by 1 week. This freed up field resource for burst mains and leak repairs. Office staff were also used to support contact management teams.
- Suspension of planned engineering schemes – as above this was limited to planned main connections and site works which had been delayed due to adverse weather conditions anyway.
- Suspension of commercial activity, this allowed the Waterlink teams to prioritise customer issues using plumbers and supply side repair teams.

The main focus of this reallocation of resources was to support the management of customer contacts and find and fix activity on the network.

A key focus of this was the reallocation of field resource repair teams or “gangs” from planned work to repair bursts. In normal periods the company has 47 gangs available to react to repairs required on the network. In the Winter Events Plan the number of gangs can be more than doubled during an incident.

Table showing the main impacts on planned work of allocating resources to the freeze/thaw event

Type of Work	Impact	Comments
Installation of Compulsory Meters	2672 meters which were planned were not installed	These meters will be installed before the end of the AMP as set out in the WRMP09
Developer Services	Limited as most sites were closed due to snow	Work was recovered over the next two weeks

For part of the period we also directed some of our head office telephone billing team to support customer service enquiries related to the event, and for two days during the incident customers phoning with non-urgent billing enquiries were asked to call back later in the week.

A4. What have you judged to be the cause of the issues, particularly water supply interruptions, for your customers (by customer type) during this period? What factors were relevant?

We work closely with the Met Office to get the best possible forecast data, which enabled us to make thorough preparations for an event of this type well in advance of the incident occurring.

Although prepared, the company’s view is that the nature of the extreme weather, a significant snowfall with temperatures dropping below -11 ° C and remaining below freezing for a number of days followed by a rapid rise in temperature and thaw led to an event of unexpected magnitude. This freeze/thaw affected the water sector in our region and meant there was reduced availability of alternative water supplies. It was the speed of the event, and in particular the rapid thaw of pipes which was unprecedented and caused a rapid increase in demand over a period of one day which we have not witnessed in the past.

Of particular relevance is the extent to which the contribution of customer side leakage impacted the demand position.

- Our analysis shows that Distribution Input (DI) increased significantly across the supply area from 515.0MI/d before the thaw to 634.7MI/d (an increase of over 20%) when the thaw started.
- Additional technical and repair resources had been mobilised to ensure we could cope with a thaw to find bursts and leaks and repair them quickly. In a typical day we repair eight burst mains and around 20 communication pipes. During the incident the maximum number of reported bursts on our network was 39, not exceptionally high and our response time to repairing leaks and bursts was good.
- Our calculations show that the total leakage from the bursts and leaks repaired on our network was approximately 18MI/d, leaving approximately 100MI/d unaccounted for and likely to be customer side leakage.

This Table shows the number of reported leaks and bursts for the same period in 2016, 2017 and 2018 and that overall, the total number of reported leaks and bursts on apparatus, mains, communications pipes, customer supply pipes and stopcocks was very similar between the three periods. This is in spite of the freeze/thaw in 2018 which did not occur in the other years. The impact of the repairs that we completed on our network clearly did not account for the overall drop in demand seen during the incident.

Day of the week	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Total
Reported JP Num	01/03/2016	02/03/2016	03/03/2016	04/03/2016	05/03/2016	06/03/2016	07/03/2016	08/03/2016	
Sum:	73	78	70	81	12	15	123	81	460
Day of the week	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Total
Reported JP Num	01/03/2017	02/03/2017	03/03/2017	04/03/2017	05/03/2017	06/03/2017	07/03/2017	08/03/2017	
Sum:	85	84	70	10	3	102	93	79	441
Day of the week	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Total
Reported JP Num	01/03/2018	02/03/2018	03/03/2018	04/03/2018	05/03/2018	06/03/2018	07/03/2018	08/03/2018	
Sum:	66	64	14	29	83	107	86	81	464

During the cold weather preceding the thaw, we had 1700 contacts from customers reporting frozen pipes on their property.

Based on the available evidence, we have concluded that the major factors leading to a number of our service reservoirs draining to empty were: -

- leaks on customers' pipes, and/or customers running taps to stop their supplies from freezing, and
- frozen cattle troughs / field supplies leaking

The additional DI of c.100MI/d on the 3rd March could have been caused by the equivalent of approximately 6000 taps (or equivalent leaks) running continuously. This demonstrates that a relatively small number of leaks, running taps and frozen troughs can have a considerable impact on DI and storage levels, particularly.

The draining of a number of service reservoirs caused widespread disruption to customers and meant we had customers with either low pressure or without water.

Once the reservoirs were drained it was difficult to find leaks on both our network and on customers' properties. By the 7th of March, DI had dropped by 89MI/d from the peak. This reduction in demand meant we were able to refill the reservoirs and allowed us to detect and repair additional leaks.

As part of our emergency plans, we rely on Water Direct to supply alternative water supplies (e.g. bottled water). Given the national scale of the weather and interruptions to supply, Water Direct were unable to provide the requested amount of water.

In summary: -

- Planned works at some of our sites was expedited as the cold weather was forecast.
- During the first day of the thaw (3rd March), distribution input increased by 104.5 MI/d, an increase of 20%, causing some of our reservoirs to drain, which caused the interruptions to customer supply and meant that detecting and repairing leaks was difficult
- There was an increase in the number of burst mains and leaks but not a significant increase and our gangs repaired these quickly, this only accounted for 18 MI/d of the additional demand seen. The remaining demand was concluded to be on the customers' pipes.
- By the 7th of March, the distribution input had dropped by 89 MI/d from the peak, suggesting that customers had been undertaking necessary repairs on their pipes. This reduction in demand meant we were able to refill the reservoirs.
- The regional scale of the incident meant that Water Direct were unable to meet their obligations and led to a delay, and a lower than planned volume of alternative water to some bottled water distribution sites on the 2nd and 3rd of March. This was compounded by

the wintery weather affecting roads. Water Direct also supply Thames Water and Southern Water who had large scale incidents, so their resources were stretched. Later on, Water Direct had the resources to meet our needs, and we used some of our contractors to help move water between sites.

2. Section B: Planning and preparation

We want to understand what steps companies took prior to the incident period to prepare in order to minimise the impact on customers.

B1. How did your established processes for gathering intelligence and insight into the potential effects of forecast bad weather on your network help you to prepare for this event? Did they highlight any particular risks and what did you do to mitigate these? (e.g. network preparation, communications with customers, increased engineering or call centre resources). Did you share insights with other utilities/services?

The Company has a mature risk management system and well-developed contingency plans for various customer supply interruption events, including those caused by extreme weather. The approach to Risk and Contingency Planning is part of the Company's PAS551 accreditation which was last externally assessed in September 2017 (Relevant sections: 4.3.4 and 4.4.7)².

Use of Weather Data

The Company has worked with the Met Office since 2008 to understand the impacts of weather on demand both during hot summers and cold winters. Numerical models, developed with the Met Office, are used to predict the demand and the number of bursts on our water mains as the weather changes. The model outputs are reviewed daily and demand is forecast up to 10 days in advance.

The leakage data team, which operates these models, works with the operations team to produce daily forecasts of demand and highlight any anomalies for investigation.

The Met Office started anticipating snow and cold weather for the UK on the 16th of February (see Annex B1a). The Met Office issued further warnings on the 19th February (Annex B1b). The Company's leakage and operations teams had regular meetings from the 21st February,

¹ Publicly Available Specification for the optimal management of physical assets

² There were no non-conformities in that audit and the Company approach to managing risk was highlighted as an area of good practice.

when an alert was issued to the wider company about the cold weather by the Head of Networks.

From the 21st February through to the end of the incident, the Met Office models were updated on a daily basis. From the 1st March daily phone calls were held with the Met Office to understand in more detail what the nature and extent of the weather would be. In particular we were concerned how the thaw would impact our pipe and those of our customers.

Initially the Met Office suggested the thaw would be quite gradual, but on the 3rd March, they had new information and confirmed that the thaw would be quick and take place on the 3rd and 4th March.

This change in forecast did not materially affect our operational response – we had already increased resources across the business. The rapid thaw did however cause a modest increase in bursts and leaks across our own network and cause a more significantly increase in bursts on customers’ pipes. Whilst the rapid thaw did not result in a surge in bursts on our network, it had a considerable impact on demand and we had to respond rapidly and then recover the situation.

Risk Register

Our company monitoring framework and corporate risk register has identified a “high” rated risk for extreme weather and the disruption it can cause to customers through interruptions to supply and low pressure. Monthly risk review meetings are held between the assets, operations, water quality and engineering teams to review these risks and the controls that have been put in place.

The risk registers consider the likelihood and impact of a risk occurring and use a five by five matrix. Risks which score above a threshold level (16 or more) are reported to the Board. The Executive team review the risks monthly, and they are presented to the Board every 6 months. The Board last reviewed the corporate risks in January 2018.

The impact of cold weather is recorded in two subsets of the corporate risk register. The Communications risk register and the Operations risk register.

For the Operations register the relevant risks and controls are shown below:

Risk	Comment	Red/Amber/Green	Rating	Score
Change in burst rate frequency due to changes in temperature and ground conditions	Increase in bursts when weather changes extremes quickly.		MEDIUM	16
Unusually cold weather causing increase in bursts and leakage	Increase in leakage causing interruptions and leakage		MEDIUM	16

The impact of severe weather is highlighted within the Communications Team risk register for the impact that poor operational performance has on the reputation of the company.

Table showing key communications risk:

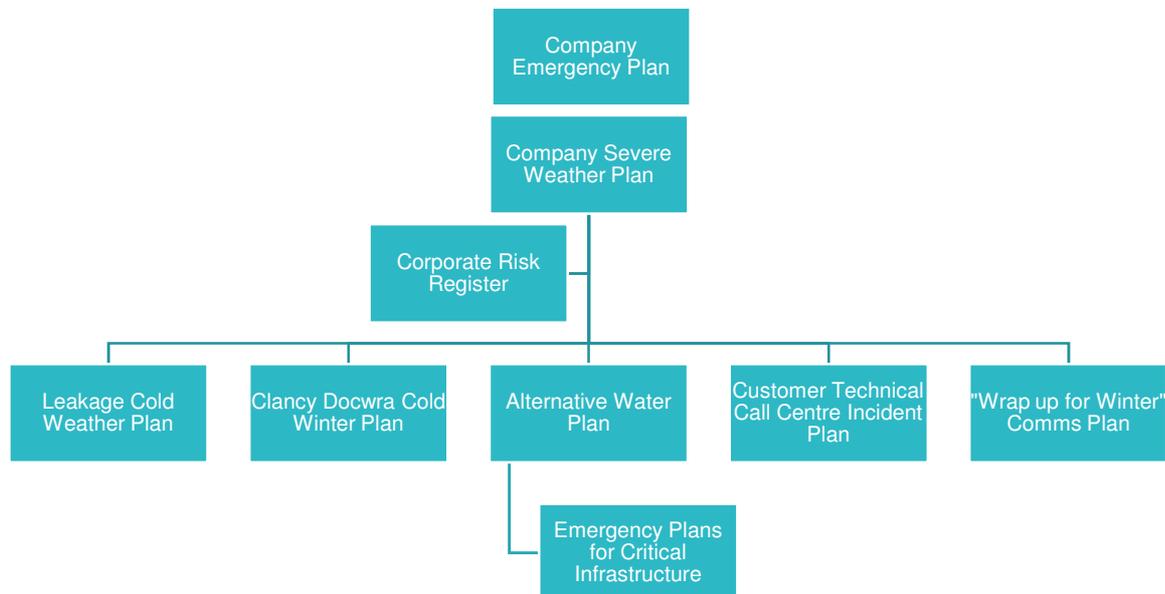
RISK DESCRIPTION	CONTROL(S)	CURRENT RISK
Poor performance leading to reputational impact	ADEQUATE	MEDIUM 16

These risk assessments will be updated based on the full review of the incident, including the lessons learned and customer insight.

Cold Weather Planning

Following on from the winter of 2010/2011 when there was serious customer service disruption in some parts of the UK (especially Northern Ireland) the Company undertook a review of its cold weather planning.

A series of cold weather plans were updated. The structure of those plans is shown below and a brief description of each plan provided.



Company Emergency Plan

The Company Emergency Plan is updated by the Emergency Planning Manager. It was last updated in 2017 in response to the lessons learned from recent incidents. The plan sets out how the company will respond to a range of incidents, including cold weather, and sets out how the company will organise an incident team, allocate resources, communicate with customers and provide alternative water supplies. The plan is reviewed annually as part of the PAS55 audit.

Company Severe Weather Plan

The Emergency Planning Manager last updated its Severe Weather Plan in November 2017. This was partly in response to hot temperatures experienced in summer 2017 when demand increased across the company area.

The Severe Weather Plan provides a framework to allow the company to ensure the safety of staff and maintain water supplies in the event of:

- Heavy snow
- Extreme cold and freezing temperatures
- Flooding
- Excessive windy or stormy weather
- Heatwaves

Leakage Cold Weather Plan

The Leakage Cold Weather Plan is updated by the Leakage Managers and Head of Networks. It was last updated in 2016. The plan specifically sets out how the company will prepare for and respond to a cold weather incident including the re-allocation of resources and the prioritisation of leak detection and repairs.

Clancy Docwra Cold Weather Plan

Clancy Docwra provide the majority of resources for the field activity involved in maintaining and improving the Company's network. This includes:

- Reactive maintenance (responding to bursts and leaks)
- Developer services (installing new off-site and on-site pipes)
- Metering programme (installing the meters for the company's compulsory, optant and replacement metering programmes)
- Planned maintenance (installing new mains to replace mains coming towards the end of their life)
- Strategic mains (installing new mains to meet the increases in demand and changes in abstraction as a result of the NEP programme)

The number of gangs working on reactive work (repair to leaks and bursts) flexes depending on the time of year and amount of work but is typically around 47. Clancy Docwra work with us and produced a Cold Weather Plan. The image below (taken from the Clancy Docwra Cold Weather Plan) shows how the resources are re-allocated

in cold weather and the number of gangs can be increased to 87. However, due to current workload the number of gangs available is currently 101.



The Alternative Water Plan

The Alternative Water Plan was updated in July 2017 by the Emergency Planning Manager and sets out how the Company will respond to an incident by supplying bottled water, bowsers, static tanks and other alternative water supplies.

Emergency Plans for critical infrastructure

The Control Room staff have developed individual emergency plans for critical infrastructure (e.g. Hospitals). Key ones relevant to this event are the plans for Maidstone Hospital and The Princess Royal Hospital (in Hayward’s Heath).

Communications with customers

Each winter the Company undertakes a media campaign called “Wrap Up for Winter” well ahead of the risk of cold weather. This commences in early winter but is reinforced as cold weather is forecast.

The campaign encourages customers to protect their properties from burst pipes and what to do if a pipe bursts.

Our response to Section D details the work undertaken leading up to and during this incident.

Resource Planning

On the 21st February the Company began to review its resources and plan for the snow and then subsequent thaw. The focus of this resource planning was in the Customer Technical Centre, Distribution, Repair and Leakage teams.

Based on previous events, detailed resource plans were prepared and implemented. Actions included: -

- The hiring by the Customer Technical Centre of additional four by four vehicles to pick up staff and get them to the Company’s headquarters in Snodland
- Planning for staff who might have to work from home because of the snow (all teams)
- Details of roads which would be gritted by local councils (Health and Safety)
- Reallocation of distribution and leakage technicians (Leakage Managers)
- Planned reallocation of repair gangs, including the cessation of non-urgent planned work

A summary of the planning undertaken between the 21 February and start of the incident on the 26th February is given below.

Cold Weather Planning and Response – Timeline	
Date	Planning / Reponses Activity
21/02/2018	Head of Networks notification of extreme temperatures to the regional operational teams and request to review out of hours standby rosters
23/02/2018	Winter safety alert issued to Operational staff in readiness for the winter weather
25/02/2018	Cold weather planning and response conference call to regional operational teams discussed
26/02/2018	Review of Clancy Docwra / Supervisors standby rosters and Winter Plan (2015) requested and to review stopping any planned works
26/02/2019	Remote working review commenced especially around work planners and Clancy Docwra support staff
26/02/2018	Request to review Distribution rosters and to suspend planned customer appointment to maximise technician support to any leakage outbreak
26/02/2018	Head of Networks requested Leakage Data Manager monitor Aquanet for any leakage outbreak due to the cold weather
26/02/2018	Request to review 4x4 availability across the company
26/02/2018	1st cold weather impact and response conference call held chaired by Head of Networks

B2 What impact, if any, did your preparation have on your ability to handle this event? What role did your Executive take in preparing for these severe events?

Our preparations, based on the activities laid out in our plans, significantly helped us to manage the event. Examples are given below.

Operational repairs

Normally in March there is low demand and improving weather, so planned work is scheduled to maintain our production and reservoirs sites. Once the weather warning was received, planned maintenance projects were expedited, where possible, (e.g. at Keleher WTW, Poverty Bottom WTW and Coggins Mill WTW), to increase the output above the demand normally expected. Despite some issues with returning sites back into operations caused by the cold weather, the main sites were back in operation by the 3rd March.

The use of hired four by four vehicles meant that the Customer Technical Centre was staffed above normal levels, and able to respond to increased contacts from customers with frozen pipes.

The additional resources available through the redeployment of distribution, leakage and repair gangs meant that in spite of the weather, the gangs kept on top of the work load and repair times remained good.

Our calculations show that the majority of the increase in DI from 515MI/d on the 1st March to 634.7MI/d on the 3rd March was attributable to either customer leaks or increased consumption (running taps or troughs) and the majority of this increased demand were resolved by the customers themselves.

Resource allocation

The Company redeployed a number of distribution and leakage technicians and repair gangs before and during the incident. At no point was there a shortage of technical or repair staff. As shown above, the number of leaks and bursts on the supply network remained manageable, and repair response times remained within our target.

Executive role

The role of the Executive in any major incident is quite clearly set out in our Emergency Plan and was followed in this incident.

The Operations Director was involved in the incident from the 26th February through to the 9th March sharing overall Executive responsibility for the management of the incident with the Director of Assets and Regulation.

As well as providing strategic direction of the incident, and ensuring resources were made available, these two Directors had specific roles. The Director of Assets and Regulation took responsibility for representing the Company on the Gold Command Team (formed of the Resilience Forums, local Councils, Police etc).

The Operations Director took a lead in communicating with customers and stakeholders, including videos shared on Social Media and TV and radio interviews.

The Managing Director attended the incident meetings and liaised with his counterpart at Southern Water, and also with some local MPs.

The Board were provided daily updates and the Chairman attended the incident room to support staff and get a direct report from the Silver Incident team.

B3 What emergency plans were in place and were they adequate to cope with the problems? Were those emergency plans appropriately enacted? If so, when?

As shown in the response to Question B1 the Company has specific plans to deal with cold weather.

Our Emergency Plan sets out the overall approach to managing any incident. There are five levels of incident categorised within the plan (levels 0 to 4). From the 26th the incident was run as a Level 2 event, preparing for a Level 3 event, which was increased to a Level 4 incident on the 2nd March.

The incident levels, set out in the Emergency Plan are shown below: -

Risk Type	Customers – Water Supply				Security & Environmental		
Summary	Properties impacted or time without water	Properties impacted or WQ risk	Production Site unplanned loss	S-holder/VIP/Key Site/Media Interest	Security breach or risk of security issues	H&S incidents/accidents/near misses	Environmental breach or risk of environmental breach
Level 0	0-500 & <3hrs	<10 contacts	No direct impact (customer/storage)	No impact	Site Alarm	Near miss low risk/cable strike	
Level 1	50-500 & 3-6hrs or >500	10-25 contacts	Storage impact – likely to trigger LLA	MP/MP interest or key site	Site break in	Near miss to staff/public	License/consent breach
Level 2	50-500 & 6-9hrs (alternative supplies) or >500	25-100 contacts	Storage impacted LLA triggered – Rezoning	Local Media Interest	Site break in – Theft/damage to operational plant	Accident effecting property/persons/staff RIDDOR	Pollutions (any)
Level 3	50-500 & 9-12hrs or >1000	Boil Notice 0-1000	Strategic site outage >3hrs	National Media Interest	Site break in- threat to Waters supply/WQ	Serious accident effecting property/person/staff RIDDOR	Contact by EA/NE/EH regarding SEW activity
Level 4	100-500 & 12hrs+ or >5000	Boil Notice >1000	Strategic site outage >12hrs	Regulator Involvement	Terrorist Threat	Potentially Fatal accident effecting person/staff RIDDOR	Potential Prosecution

Linked to the Emergency Plan there are individual plans, as described in section B1. Each of these plans was enacted, beginning on the 21st February when the Head of Networks ensured that the company started to plan for the cold weather. These plans were fully implemented by the 26th February when a Level 2 incident was declared and the first meeting of the incident team took place.

Given the severity of the event additional resources were mobilised and the incident management team structure was improved to increase the effectiveness of the response. For instance, an integrated team of leakage, distribution and network modelling staff was specifically set up at the Company's Tonbridge Office, close to the area most severely impacted, to provide clear management focus on the detection of leaks and bursts, the repair response and the rezoning of supplies to customers affected.

Were the Incident Plans Adequate to Deal with the Problem?

Our plans worked well in spite of the very cold weather and snow and there had been very limited impact on customers. As the thaw occurred, DI increased by over 100MI/d, but that, as with previous events (such as Northern Ireland in December 2010), a relatively small percentage of this was due to bursts or leaks on the Company's network.

As per the table on page 13 the total number of reported leaks and bursts was 460 in 2016, 441 in 2017 and 464 in 2018. And whilst the mix of reported jobs was slightly different, the impact of the network would have been broadly the same in each of the three years.

The work so far shows that around 18MI/d of this increase is attributable to the Company's pipes. So, whilst the Company's plans to deal with the bursts on its network worked well, the impact of customer leakage and increased consumption meant that there was a considerable impact on our ability to supply customers.

The Alternative Water Plan was updated in July 2017 and sets out how the Company will respond to an incident by supplying bottled water, bowsers, static tanks and other alternative water supplies. Water Direct are our alternative water provider. During the early stages of the Level 4 event, there were challenges faced by Water Direct as they tried to deliver water across the region to multiple water companies facing the same problems.

Later on Water Direct improved the service in spite of the regional issues.

Over the coming weeks we will review our Alternative Water Plan with Water Direct and determine how we can improve it to make it more resilient in the event of a regional event.

Our emergency plans for Critical Infrastructure at the Hospitals at Haywards Heath and Maidstone were implemented successfully.

- At Haywards Heath we provided a tanker of water from the 26th February, this was used to support the Hospital which had a private side supply issue.
- We simulated an emergency incident at Maidstone on 25th October 2017 with the hospital and other services. On the 3rd March there was a risk to the supply in

Maidstone so we implemented that emergency plan, including the supply of a tanker of water. Our bulk supply from Southern Water was restored before the hospital supply was impacted so full implementation was not required.

B4 What training have your staff had for responding to severe weather events, particularly freeze/thaw incidents?

Most of the capability of our staff to handle severe weather events is through familiarisation on our emergency plans, and through experience of incidents. Additionally there have been a small number of training exercises:

- Working with Kent Resilience and the NHS on an emergency exercise where cold weather had resulted in a major water pipe feeding Maidstone Hospital having burst and flooding surrounding roads. The exercise tracked the delivery of tankered and bottled water to the hospital, with our press team working with the NHS to produce joint messaging.
- We undertook a thorough Executive-led review of our response to previous cold weather incidents. This included key improvements, each sponsored by an Executive member. Areas reviewed included: -
 - Providing support to customers with frozen pipes
 - Call centre resourcing
 - Website updating
 - Resilience of service reservoirs
 - Data availability

A copy of the plan is included in Annex B4.

B5 What did you learn from previous incident management events, including through working with other water companies, local / regional partners, emergency services or other service providers, and how is this reflected in your current processes?

As part of our Every Minute Counts plan, any incident which affects the supply of water to more than 50 properties for more than three hours are now the subject of an internal review. Larger incidents, including “near misses” (Hailsham Mains Burst, 2015; Affinity Water Bulk Supply Failure, 2015; Winter High Leakage, 2017; Summer High Demand, 2017) are subject to a detailed investigation and lessons learned. These larger incidents are reported through to the Board and lessons learned and actions arising from the incidents are reviewed by a Non-Executive Director. Some of the key lessons from these reviews have been: -

- An action log is maintained of all lessons learned.
- The structure of the incident team was changed to improve communication between the Tactical Team and Field Teams

- Improved plans for alternative water stations were developed and 5 litre grab bags for static tanks for sanitary water are now stocked
- Improved communication with bulk supply companies
- Improved data in the control room
- Incident data – for strategic customers, vulnerable customers, property counts etc
- Further development of specific plans for critical infrastructure (e.g. the plans for Maidstone and Hayward’s Heath hospital)
- Improving the culture of our technical teams and repair teams
- Improved systems (e.g. leakage reporting and visibility of the network)
- ‘In your area’ web site page with SMS updates for event updates including UMS outbound SMS messaging service and the ability to add polygons of affected DMAs direct on company website.
- Social media team on standby, website updates direct to Facebook and Twitter followers
- Specific vulnerable customer team role developed for incidents

3. Section C: Incident response

We want to understand how companies responded to the incident, including how it prioritised action and how the Board and Executive were involved in the process.

C1. Provide details of your established processes for responding to issues during severe weather events, particularly late winter freeze/thaw incidents (e.g. operational, governance, communications, working arrangements with other authorities through local / regional partnerships). Were these processes effective during this incident? In your response, make clear the role of your Executive in any decision making within these processes.

As shown in our response to B3, we have plans for all aspects of dealing with major incidents, in particular we have up to emergency plans and additional cold weather plans for key parts of the business (Leakage, Distribution, Customer Services, Repair Gangs).

In the event of a potential freeze/thaw event pre-planning work is undertaken (in this case commencing on the 21st February) and if there is a risk of disruption to customer service then an incident team will be set up (this was set up on the 26th February).

The Incident Team is managed by an experienced senior manager (e.g. a Head of Operations, Engineering or Assets) and includes all relevant teams. There is a dedicated incident room at the Company's Head Office in Snodland (incident teams can be set up elsewhere if necessary).

There is a roster of staff, each with their own roles and responsibilities, which is published on the Company intranet.

The incident team, led by the Senior Manager will include the following: -

- Duty Director
- Control Room Manager
- Duty Communications Officer

Depending on the nature of the incident, other staff will be included: -

- Water Quality Manager
- Leakage Manager
- Distribution Manager
- Production Manager
- Maintenance Manager
- Alternative Water Co-Ordinators
- Customer Services Manager
- Hydraulic Modellers
- Communications Manager
- Leakage Data Manager

Where an incident lasts more than 12 hours, the roles on the incident team are rotated every 12 hours. This means, for instance, that the Senior Manager heading the incident will rotate with a colleague at 09:00hrs and 21:00hrs.

In this particular incident, given the scale of the disruption, additional staff were included in the incident team. 118 additional staff volunteered to support the incident team, including customer services, distribution, leakage and repair gangs. To ensure the effective identification and repair of leaks and bursts, a separate operational team (consisting of distribution managers, hydraulic modellers, leakage managers and repair co-ordinators) was set up at the Company's office in Tonbridge.

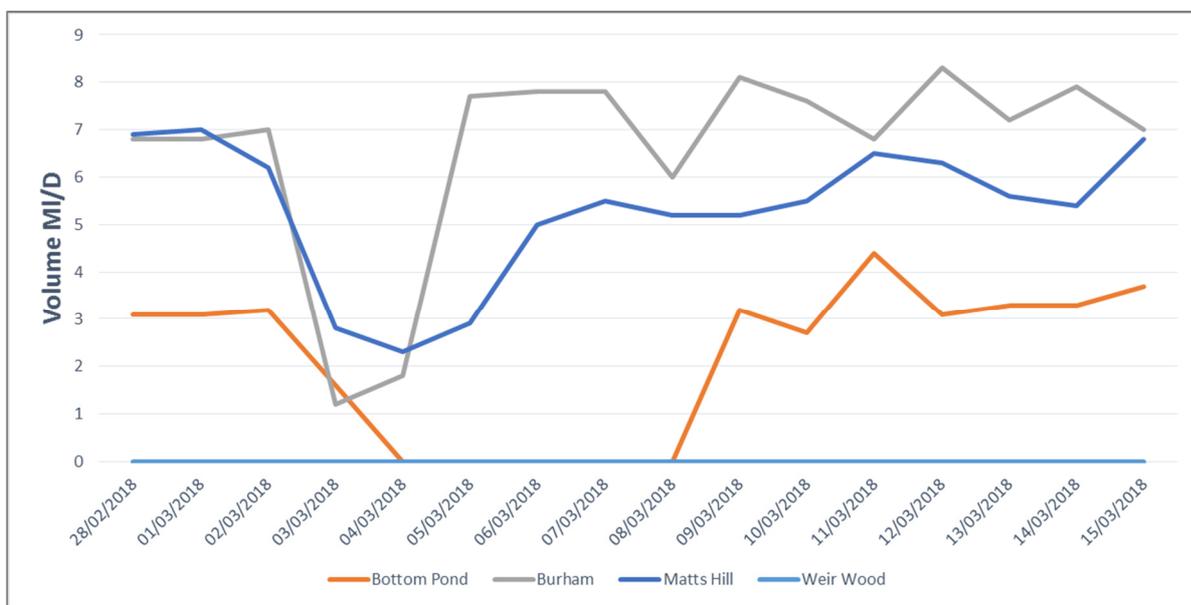
For the largest incidents, where mutual aid may be required, a Gold Command is set up to include external agencies. It is rare that a Gold Command is needed, but in this instance a Gold Command was established. The Company was represented on Gold Command by the Asset and Regulation Director.

Other inter-agency sub-groups are also formed, in this instance a communications sub-group, including representatives from Sussex Resilience Forum and Southern Water, operated on a daily basis. The Head of Communications for the Company was the representative on this group.

Overall these processes were effective. The co-ordination between the various teams was good, and our working relationship with third parties and co-operation with the media was commended. For instance, the BBC stated *"As the breakfast show producer for BBC Radio Kent – I just wanted to say thank you for the honesty and access you have given us. It was so refreshing to have an ability to challenge and talk honestly with your team; Our listeners have expected us to represent them and their troubles. So to be able to put the frustrations they've faced to your colleagues and not have them shy away from tough or challenging questions is very refreshing in an era of 'statements and no comments.'* It allowed our listeners to empathise and understand

– as well as feel represented. The best thing I can say is keep putting people up to be challenged and heard from – I can see from the comments listeners made, it created a respect; even if they weren't happy with the situation.”

Southern Water was experiencing similar issues to ourselves, and their reservoir storage levels got very low. As a result, there was on-going discussion between the two companies to ensure that the risk to customers was balanced. This meant, for instance, that the supplies from Southern Water’s Burham Treatment Works to our Maidstone area in Kent were severely reduced. This necessitated our incident team to plan for the potential loss of supply to large areas of Kent including certain critical infrastructure sites. Whilst this ultimately had limited impact on customers, it did create a much larger area of concern which stressed our response activity. The graph shows the daily changes in bulk supplies.



The role of the Executive in any major incident is quite clearly set out in our Emergency Plan and was followed in this incident. The Operations and Asset and Regulation Directors remained on the Incident Team from the 26th February through to the 9th March and took responsibility for Customer Communication, liaison with Gold Command and liaison with other external stakeholders. They ensured that resources were made available and kept the Board and other Executive Directors up to date. In this instance the Chairman attended the Incident Meetings and the Board were given briefings on a daily basis.

C2. For this incident, please describe how your company went about deploying the resources required to respond to the incident. In responding, please detail the scale of resource deployed and from which parts of the business and/or external resources (e.g. supply chain, local / regional partners, business retailers) they were drawn.

The company operates a number of standby roles to manage an incident team. As the incident developed those roles were called on and the incident team formed. The roles left by the staff were backfilled. The rotas encompass all key parts of the business, including Operations, Assets, Leakage, Customer Services, Communications and Support Services

In the period from the 21st February, when this the incident was at Level 2, resource plans were prepared. Our experience has shown that incidents which occur on a weekend or at night can have the biggest impact, so staff were asked to volunteer to support the incident team in out of hours periods. The table below shows the additional out of hours resource available to the incident within the operations directorate.

As the table shows, additional production staff were available in the period up until the Freeze/Thaw to improve the resilience of the treatment works during the cold weather. For instance, in the Eastern Region, there are normally 4 technicians available at night, but an additional 8 were available on the 27th and 28th of February.

Table showing out of hours resource availability

Department	Region	Number of	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			26-Feb	27-Feb	28-Feb	01-Mar	02-Mar	03-Mar	04-Mar	05-Mar	06-Mar	07-Mar	08-Mar	09-Mar	10-Mar	11-Mar
Clancy Gangs	East	Standby Gangs	8	8	8	8	8	8	8	9	12	12	12	12	12	12
		Volunteer Gangs	3	3	3	4	5	6	6	11	11	11	11	12	3	3
		Number used	2	3	2	0	8	11	12	15	12	12	13	8	8	8
	West	Standby Gangs	4	4	4	4	4	4	4	4	4	4	4	4	4	3
		Volunteer Gangs	0	0	0	0	0	3	7	2	4	4	4	0	3	2
		Number used	4	4	4	4	4	7	11	6	8	8	8	3	7	2
Distribution	East	Standby Techs	8	8	8	8	8	7	7	8	8	8	8	8	8	8
		Volunteer Techs	5	4	5	4	4	8	9	18	14	18	15	10	3	5
	West	Standby Techs	4	4	4	4	4	3	4	4	4	4	4	4	4	4
		Volunteer Techs			3	3	4	5	7	8	10	9	11	7	7	7
Leakage	East	Volunteer Techs						6	12	13	18	16	16	14	6	5
	West	Volunteer Techs						3	3	4	6	5	4	3	1	5
Production – Maintenance	East	Standby Techs	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		Volunteer Techs	5	8	8	0	0	0	0	0	0	0	0	0	0	0
	West	Standby Techs	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		Volunteer Techs	0	0	0	4	4	4	5	0	0	0	0	0	0	0
Production – Process	East	Standby Techs	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		Volunteer Techs	3	2	3	0	0	0	0	0	0	0	0	0	0	0
	West	Standby Techs	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		Volunteer Techs	0	0	0	2	0	2	3	2	0	0	0	0	0	0

Note: There was no need for additional production technicians after the 5th of March as the thaw had finished and production sites were running normally

On the 2nd March, when the Incident was elevated to Level 4, a day-by-day resource plan with defined roles was developed. This was completed within the first 24hrs. This plan included roles for up to a two-week period, given the uncertainty in the weather forecast. This included internal staff and suppliers. The communications team called on free-lance support to be available if needed.

On the 2nd March, staff were asked to volunteer for the weekend in the event of an increase in demand.

For the 5th March there was a further request to all staff asking for help, and a spreadsheet of respondents was collated by the Business Information Team. 118 staff volunteered from across the business to support the incident team, including providing bottled water to vulnerable customers, managing the bottled water stations and finding leaks.

C3. Provide details of how your company assessed the operational implications and prioritised its responses during the incident period.

Whilst the Company was operating a Level 2 incident, the Company planned for low temperatures on the weekend of the 3rd and 4th of March and an incident team was formed. This was principally focussed on resource planning and readiness whilst also accelerating the early completion of planned maintenance at treatment works and storage.

This planning consisted of daily calls with all relevant teams. The control room and leakage teams began more frequent monitoring of: -

- Reservoir storage
- Leakage
- Outage

Resource deployment plans were reviewed and stocks of bottled water and repair materials were reviewed, in accordance with the cold weather plans for distribution, leakage and repair gangs.

Staff were provided text alerts and bulletins and the Company followed the Standard Operating Procedure for winter readiness.

During the Level 4 incident we had Incident Meetings at 09:00, 12:00, 15:00 and 21:00 hrs.

We had good data on the locations likely to be affected and when, including real-time information on reservoir, production and demand. The Control Room has live data for production and storage sites and leakage data was provided every two hours.

By identifying the DMAs affected, customer services can quickly update their Incident Portal which automatically calculates the number of vulnerable customers, hospitals other critical infrastructure, and numbers of customers affected. A list of potential bottled water stations is also provided automatically.

Each day, based on the latest information, a prioritised list of areas fed by specific reservoirs was produced. This list included a list of: -

- Bursts and leaks reported
- Reservoir levels
- Vulnerable customers
- Hospitals

During the Level 4 incident we had staffed based at our largest works 24 hours a day to ensure output was maximised.

C4. What challenges/barriers did your company face in resolving problems that customers experienced? How did you overcome them?

There were several challenges

- The logistics of supplying alternative water supplies, given that Water Direct were facing a regional problem and there was a significant amount of snow and ice. To help with this we used our own contractor resource to help unload and distribute the bottled water.
- The situation developed rapidly and continued to change, and it was difficult to keep customers up-to-date with the latest information (e.g. when supplies would be restored and the locations of alternative water). In some cases, customers had access to more up to date information (e.g. via Facebook) than some of our staff in the field. This is an issue we will address as part of our investigations.
- Handovers between out-of-hours staff was complex, especially given the number of valve operations which were undertaken during the event. We improved the handover process between staff as the event progressed.

- Leak detection and valve operations was difficult when there was lying snow or deep standing water. We deployed excavators or pumps from repair sites to help with the location of leaks and valve operations.
- Our hydraulic models were useful and accurate however there was an area of our network (Bolney), where our modelling showed that we should have been able to maintain supplies, albeit at low pressure, but instead we found that customers in the area had no water for extended periods.
- It was a challenge maintaining communications with water companies providing us with bulk supplies, in particular in Kent, where there was a risk to supply which stressed our resources. These companies were also experiencing similar high demands and operational issues.
- Resources were always available, and there was financial support and management support for the teams throughout the incident.

C5. Provide details of how your company identified customers in vulnerable circumstances before, during and after the incident. What support was offered to these customers and how was this delivered?

The Company has a register of vulnerable customers. We publicise this, including visiting vulnerable customer groups and liaison with other services.

All vulnerable customers' addresses are recorded and linked to a DMA, so our Incident Portal automatically calculates the number of vulnerable customers and provides a list of addresses.

During the incident about 206 customers contacted us and were added to the register.

Table showing number of vulnerable customers affected.

	Mobility	Blind	Deaf	Password	Debt Vulnerable	Blind & Deaf	Dialysis	Large Print Bill	Audio Bill	Braille Bill
less than 4 hours	7	0	0	1	0	0	0	1	0	0
between 4 and 12 hours	90	5	4	11	8	0	1	2	0	0
between 12 and 24 hours	20	0	0	0	3	0	1	0	0	0
between 24 and 48 hours	25	0	1	2	2	0	0	3	0	0
greater than 48hr	138	2	2	3	5	1	2	4	0	1

As supplies were restored through the incident and customers in these areas who had called to report loss of water supply were contacted by the company to check supplies were restored.

A total of over 3,800 calls were made, with most customers confirming supplies were restored, and just 26 subsequent visits made to respond to air-locked or blocked supplies.

4. Section D: Communication and support

Regular and informative communications are especially important during major incidents. We want to understand how water companies communicated with customers and wider stakeholders during the incident.

D1. How effective were your communication processes before, during and after this incident for each of the below:

- a) Customers? (residential and business);**
- b) Customers in vulnerable circumstances and business customers for whom a water supply is critical (e.g. hospitals, schools)?**
- c) Water retail businesses? and**
- d) Wider stakeholders? (e.g. local authorities, other agencies, Government, Ofwat)**

D2. What channels did you use for communication with customers and key stakeholders before, during and after the event? (e.g. local, regional or national news media, social media, e-mail, SMS, hard copy letter) What were your key messages at each stage? Please provide examples of your communications material with your submission.

D3. How did you proactively engage with customers (by customer type) before, during and after the event?

We set out here the communication processes we used before, during and after the incident, for each of the customer and stakeholder groups outlined. The tables detail the channels and our approach to proactively engaging with customers throughout.

Following the incident we provided feedback opportunities for customers and we are carrying out customer research within those areas impacted and preparing community visits and meetings.

Communications before

There were several campaigns over the winter period, these included: -

Wrap up for winter

Wrap up for winter is the Company's annual educational campaign to encourage customers to protect their pipes from freezing and provide advice on what to do in the event of a burst pipe. It is a multi-channel programme across, press, web-media, social media and leaflets.

Water Safe

Water Safe is a national accreditation body which checks and approves business and their plumbers and brings together the water industry approved plumbers scheme. The group continually campaigns to protect customers' plumbing and provides independent advice for customers to look after their home plumbing.

Priority Services Register

We are encouraging customers to sign up for the priority services register via a number of mechanisms and have been working with other utilities to promote the service, including UK Power Networks.

The tables below give a current view on the activities undertaken.

Group	Activities	Comments
Customers (residential)	Encouraging HomeServe supply pipe and plumbing services	We issued 50,000 letters to customers encouraging them to protect their plumbing and take out insurance.
	Wrap up for Winter Press release	We are undertaking research to find out how many people will have seen the press release however our media monitoring showed there were 8 articles resulting from the release and the total reach was 115,000.
	Sponsorship of Weather Page on KM Group	There were more than 40,000 visitors to the webpage and 4,127 hits to our specific Wrap up for winter webpage as a result.
	Wrap up for Winter webpage	The wrap up for winter page has had 4,395 page views since November (it ranked number 11 of the 'My Water supply' section's top clicks, and

Group	Activities	Comments
		attributed to 1.7% of total web traffic.
	Wrap up for Winter leaflets	2000 leaflets have been given to customers at community events and drop in sessions.
	Use of social media for Wrap up for Winter	We are undertaking an independent report on the impact of Social Media to increase engagement.
	Support for Water Safe	During February and March Water Safe twitter posts had more than 54,000 impressions
Customers (business)	All business consumers have access to the same information.	Our Water Regulation Team completed 1090 inspections and 604 re-inspections over the 2017/18 period to ensure plumbing meets regulations
Vulnerable customers	Priority Services Register promotion via press release, the company website and visits to community groups.	The company's Priority Services Register holds details of customers with additional service needs. The number of customers on the company's register totalled 16708, and on 2 nd March, there were 547 customers registered in the areas affected by the incident.
	Joint utilities network guide was produced on the 15 th February	Through this joint network 50,000 copies are in circulation
Wider Stakeholders	Our winter 2017 e-newsletter (the Source) included a reminder about the Wrap up for Winter campaign.	The newsletter was delivered to 2,855 people and 27.9% of the newsletters were opened.
	There was a Sussex Resilience Forum community event in Hailsham on the 21 November 2017	It was attended by 80 people from Parish and County Councils, emergency services and charities. The theme of the event was cold weather

Group	Activities	Comments
		emergencies. We had a stand with our wrap up for winter advice and examples of pipe lagging.

Communications during

Group	Activities	Comments
Customers (residential)	<p>We issued 7 press releases during the incident which were all picked up by local press and broadcast media.</p> <p>Our communications focussed on practical advice for customers experiencing loss of supply, and on how to look for leaks and identify frozen pipes.</p> <p>Our regular press releases also highlighted the importance for business owners and Landlords/owners of unoccupied properties to make similar checks at empty properties.</p> <p><i>“We are asking people to look in their attics, airing cupboards, under their sinks and to check the taps out in their gardens to see if they have got any unnoticed leaks which could be a trickle at the moment but later will cause major damage. If leaks are detected, they should turn off their water supply at the stop tap and call a plumber.</i></p> <p><i>Can business owners also go and check on their unoccupied premises and landlords on any unoccupied homes as if there is a leak it could cause continued damage to their property as</i></p>	<p>We gave 27 radio and TV interviews during the incident, including BBC local and national news.</p> <p>BBC Radio Kent Breakfast Producer said: <i>“As the breakfast show producer for BBC Radio Kent – I just wanted to say thank you for the honesty and access you have given us”.</i></p>

Group	Activities	Comments
	<p><i>well as wasting valuable water supplies.”</i></p>	
	<p>We updated the website regularly throughout the event. An Emergency Banner was added to the website and the homepage banner provided a quick link to our updates, which included an FAQ page and details of bottled water locations</p>	<p>There were 320,000 visits to the website during the incident, an increase of over 1000% on our typical numbers</p> <p>Between the 3rd March and 8th March we updated the website 242 times.</p> <p>CCWater’s Communications Manager emailed us during the week to say that the BBC National News had highlighted our website as being the easiest to find information.</p>
	<p>In your area map</p>	<p>There 164,000 page views and 63,000 unique visitors. There 6910 new postcode registrations and 500 customers reported leaks (not all unique) via the portal.</p>
	<p>Social Media</p>	<p>We issued 174 proactive posts on twitter and Facebook which resulted in 26,000 link clicks, 934 shared posts a reach of 4.2m people. The peak contact was on the 4th of March when we received 1190 contacts.</p>
<p>Customers (business)</p>	<p>We used our Environment Team as a support team for farmers. In total more than 40,000 farm animals were supported.</p> <p>We worked with the resilience forum to have help from the fire service to fill bowsers with river water.</p> <p>We used our contacts at the NFU and a contact made during</p>	<p>Due to the rural nature of the area impacted for us we had a number of livestock owners impacted with no water. It worked well having the dedicated Environment Team to support as they had the understanding.</p>

Group	Activities	Comments
	<p>the incident from the RSPCA to help advise farmers.</p> <p>Our regular press releases also highlighted the importance for business owners of unoccupied properties to make checks for leaks and frozen pipes at empty properties.</p> <p><i>“We are asking people to look in their attics, airing cupboards, under their sinks and to check the taps out in their gardens to see if they have got any unnoticed leaks which could be a trickle at the moment but later will cause major damage. If leaks are detected, they should turn off their water supply at the stop tap and call a plumber.</i></p> <p><i>Can business owners also go and check on their unoccupied premises and landlords on any unoccupied homes as if there is a leak it could cause continued damage to their property as well as wasting valuable water supplies.”</i></p>	
<p>Vulnerable customers</p>	<p>All vulnerable customers on the Priority Services Register were pro-actively contacted to see if they had a water supply or needed alternative water. There were a total of 559 customers on the register for the affected areas.</p> <p>Customers contacting and identifying vulnerability during the incident were added to the Register and managed through the Customer Care Team.</p> <p>All customers on the register without water had bottled water</p>	<p>The number of customers on our PSR in the affected area increased from 547 to 674.</p> <p>Our ReciteMe translation and accessibility tool (which allows customers to hear messages in their own language) was used 5000 times.</p>

Group	Activities	Comments
	<p>delivered to their homes by our customer care team and volunteers, who also provided customers with a dedicated contact number to call during or after the event – 0333 000 2468.</p> <p>Our contact with Kent NHS Community Health also checked that during their visits there was a water supply to the property and no evidence of leaks.</p> <p>We were in contact through the Kent and Sussex Resilience Forums. So their member groups were able to monitor vulnerable customers.</p> <p>We provided the Charity Rotherfield St. Martins a pallet of water so they could distribute it to their clients.</p>	
Water Retail Businesses	<p>On Sunday 4th March we called the major retailers to inform them of the incident.</p> <p>Sunday 4th Sent first Retailer email to all Retailers</p> <p>Monday 5th March- 2 dedicated resource made available to arrange for non-household leaks to be repaired.</p>	<p>The major retailer in our area is South East Water Choice. They added messages to their website, twitter and telephone lines.</p>
Wider Stakeholders	<p>During the week we issued regular updates to stakeholders, and we worked closely with the resilience forums to agree messages.</p> <p>Sussex Resilience Forum set up a comms cell which spoke daily.</p>	<p>A number of councils shared our messages about finding and fixing bursts.</p> <p>In addition MPs posted updates on their social media channels.</p>

Group	Activities	Comments
	<p>We provided regular updates to all our MPs and specific updates to MPs who constituencies were impacted.</p> <p>There were daily Gold Command calls with Defra, Ofwat and other key parties.</p>	

Communications after

Group	Activities	Comments
Customers (residential)	<p>All customers impacted received a letter apologising and setting out details of automatic compensation. The letters were issued on the 10th March.</p> <p>We updated the website with information about compensation and a link through to allow people to provide feedback about the incident.</p> <p>All customers who contacted to report that they were without water were called back after the incident by the company to check supplies had been restored. As supplies were restored across the incident, over 3800 such calls were made.</p> <p>We did a “thank you” press release and radio interviews after the end of the incident.</p>	<p>Approximately 260 people have written to us asking for alternative levels of compensation</p> <p>There were 17 responses to our request for feedback. Six of these were positive.</p>
Customers (business)	<p>We updated the website with information about compensation and a link</p>	

Group	Activities	Comments
	<p>through to allow people to provide feedback about the incident.</p> <p>We did a “thank you” press release and radio interviews after the end of the incident.</p>	
Vulnerable customers	<p>Customer contacts with vulnerable customers were managed through our customer care team, who provided vulnerable customers with a dedicated contact number to call during or after the event – 0333 000 2468.</p> <p>In addition, customers who contacted to report that they were without water were called back after the incident by the company to check supplies had been restored. Over 3,800 calls were made as supplies were restored.</p>	
Water Retail Businesses	We wrote on the 19 th March to all retailers apologising and setting out the compensation.	
Wider Stakeholders	We did a final newsletter to confirm service was back to normal and we wrote to each MP whose constituents had been affected and confirmed the compensation.	

Overall we believe our activities during and after the incident were effective, but await the results of our full review and customer research to understand any lessons to be learned.

We are of the opinion that we need a more detailed review of our “wrap up for winter” campaign. The number of bursts on customer side plumbing shows that people either

are not noticing or are not acting on our messages given before the incident. We have been running this campaign for a number of years – but have not measured the impact and whether customers have lagged their pipes. Given the scale of this across the country we would suggest this is not specifically a South East Water issue.

Trying to encourage people to act, especially where it involves time/effort and money, particularly in the South East where cold weather events of this scale have not been as frequent, is difficult.

Further details of all the communications activity is given in Annex C1.

D4. What processes do you have in place for managing properties that are vacant, void or difficult to access (eg businesses that are closed at weekends) in the event of a major incident?

Press releases form a crucial part of customer communications during events, and in this incident, we issued seven which were all picked up by local press and broadcast media.

Extracts from two of our releases are provided:

Example 1:

‘Steve Andrews, South East Water’s Head of Central Operations [said]: “We are asking people to look in their attics, airing cupboards, under their sinks and to check the taps out in their gardens to see if they have got any unnoticed leaks which could be a trickle at the moment but later will cause major damage. If leaks are detected, they should turn off their water supply at the stop tap and call a plumber.

Can business owners also go and check on their unoccupied premises and landlords on any unoccupied homes as if there is a leak it could cause continued damage to their property as well as wasting valuable water supplies.”

Example 2:

‘Dr Simon Earl, Operations Director, South East Water, said: “We are asking people to look in their attics, airing cupboards, under their sinks and to check the taps out in their gardens to see if they have got any unnoticed leaks which could be a trickle at the moment but later will cause major damage. If leaks are detected, they should turn off their water supply at the stop tap and call a plumber.

“This is the same message for businesses and owners of unoccupied premises as if there is a leak it could cause continued damage to their property as well as wasting these valuable water supplies.”

In addition, meter readers working in affected areas were instructed to look for properties where the meters were recording high usage (“spinning”) and appeared

unoccupied or empty, indication possible internal or external customer-side leaks. In these cases, attempts were made to speak with the residents, but where they were unavailable, the water supplies were switched off, and letters left (see annex D3) advising customers of the action taken, and how to contact the company for the supplies to be repaired and restored.

D5. What ongoing support after the incidents have you put in place, in particular for customers in vulnerable circumstances?

As supplies were restored through the incident and customers in these areas who had called to report loss of water supply were contacted by the company to check supplies were restored.

A total of over 3,800 calls were made, with most customers confirming supplies were restored, and just 26 subsequent visits made to respond to air-locked or blocked supplies.

The incident identified that customers often do not recognise the vulnerability caused by prolonged interruptions to water supplies. We are now piloting a revised approach within the customer care team, where we ask customers as part of ongoing discussions around the Priority Services Register, whether a customer would be able to collect bottled water in the event of a prolonged supply interruption.

Based upon the findings of the pilot, we may add this as part of our standard customer conversation when customers register with us, for example, during the house-move process.

We are also currently working with stakeholder groups focussed on supporting customers at risk of vulnerability to see how we might be able to improve the number of customers aware of, and registering with, our Priority Services Register.

5. Section E: Impact on customers and compensation arrangements

We want to understand how water companies expect to provide customers with appropriate compensation for the disruption that they experienced.

E1. Provide details of how you will identify which customers (by customer type) are entitled to compensation

Customer contacts reporting 'no water' each day were combined with DMA flow data taken from hydraulic models to identify affected areas, length of time of disruption, and numbers of customers impacted per area. Further analysis of this data against the company billable customer database provided us with customer types. The data was reviewed and verified by the incident team and was the basis for contacting customers to apologise and set out compensation payment.

Letters, including an apology for the disruption caused, were sent out on the 10th March, confirming the levels of compensation that customers would receive. An updated letter was sent to 585 customers in Bolney on the 19th March, recognising that they had been affected for over 48hrs, which was longer than 24-48hr duration from our initial calculations.

The compensation offered was set based on the impact duration:

- 1) Interruptions lasting; 3 – 12 hours,
- 2) interruptions lasting; 12 – 24 hours,
- 3) interruptions lasting; 24 – 48 hours,
- 4) interruptions lasting; greater than 48 hours.

It should be noted that water was feeding into the impacted supply areas throughout the incident, and as demand reduced overnight, some customer supplies (typically those whose properties are at lower levels) may have been restored.

From our initial letters, we have had contacts from customers living in both Wadhurst and Rotherfield who were paid compensation but have reported that they remained on supply throughout (though they may have had low pressure). We have confirmed to these customers that they will retain their compensation, with some confirming that they are making a donation to Charity.

Any contacts received from customers as a result of the letters issued were reviewed. These typically included customers who were paid compensation but remained on supply throughout (though may have had low pressure), or customers requesting changes in compensation due to a change in impact duration. For changes in duration we increased the level of compensation offered.

We have also reviewed additional compensation where individual properties have been impacted potentially by a localised issue which we may not have been aware of, typically in these cases we have accepted the customers stated interruption period even where our flow information indicates they should have had supply restored.

The differences between the modelling and customer feedback have been where DMA boundaries were affected by the opening of valves or in two DMAs where we identified incorrect DMA boundaries in our hydraulic models.

Compensation types:

- Depending on the length of the impact we paid household customers either £25, £50 or £100.
- We have paid compensation to nine non-household retailers based on the number of properties (SPIDs) affected.
- Additional payments of £2,500 were made, or will be made, to local schools.
- Ad hoc compensation – The Company made a number of individual compensation payments, these have included:
 - payments to individuals or businesses that allowed us to set up bottled water stations at their locations,
 - specific cases where individuals or businesses have incurred direct costs as a result of the supply interruption
 - payments to individual household customers who have incurred direct costs as a result of the supply interruption (typically plumbing repairs), and reviewed each other claim for compensation; and
 - we are reviewing some additional business claims.
 - payment to the charity Rotherfield St Martins to thank them for their support during the incident
 - we have also used Waterlink (our in-house domestic supply pipe and plumbing service) for repairs where the customer has contacted us direct with a Water Supply / Heating issue. These repairs have been at the Company's costs.

E2. Provide details of the automatic GSS payments, including any payment penalties, you expect to pay (or already have paid) to customers (by customer type) as a result of the incident period and the total value associated to these payments.

E3. Provide details of any further compensation you will be providing to customers beyond automatic GSS payments and how the level of compensation was calculated relative to the disruption customers experienced. In doing so please provide details of the numbers of customers (by customer type) you expect to receive this and the total value associated to these payments.

The total payments by type is set out in the table below, which also highlights the difference between the value of the company’s goodwill payments, and the payments provided for within the GSS standards.

All payments made were greater than would be payable under GSS.

GSS Band	HH	SEW band	Payment	SEW Difference
0-12 hrs	£0	3-12 hrs	£25	+£25
12-24 hrs	£20	12-24 hrs	£25	+£5
24-48 hrs	£30	24-48 hrs	£50	+£20
48-72 hrs	£40	>48 hrs	£100	+£60

The Company’s average household bill is a little over £200, and our compensation payments are roughly equivalent to the following periods.

- £25 - 6 weeks’ water charges
- £50 - 3 months’ water charges
- £100 - 6 months’ water charges

All payments made have been credits to the customers water account, and customers can request a refund of account credits. All credits were made within a week of the incident.

The total value of the payments made is outlined below.

Table of household customer payments.

Interruption band	Payment	No	Value
3-12 hrs	£25	14697	£367,425
12-24 hrs	£25	1270	£31,750
24-48 hrs	£50	2363	£118,150
>48 hrs	£100	5536	£553,600
		23,866	£1,070,925

Note: All payments have been made as goodwill payments, under GSS scheme, severe and exceptional weather can mean that payments are not made.

For non-household retail customers, the company has raised credits against non-household retailer accounts and the retailers notified of the properties affected, so that they may pass these payments onto their customers. There were 1759 compensation payments made, totalling £149,260.

The value of payments for non-household customers is outlined below: -

Table of non-household customer payments.

Retailer Reference	Compensation (£)	Full Retailer Name
ANGLIAN-R	440	Anglian Water Business (National)
BUSSTREAM-R	2800	Business Stream
CASTLE-R	360	Castle Water
EVERFLOW-R	460	Everflow Ltd
FIRSTBW-R	120	First Business water Ltd
GREENEKING-R	120	Greene King Brewing and Retailing Limited
NORTHUM-R	200	NWG Business Ltd (part of Northumbrian Water
SEVERN-R	540	Water Plus Select Limited (New name for Severn Trent)
SOUTHEAST-R Choice	143,560	South East Water Choice
SOUTHWEST-R	240	Pennon Water Services Ltd (South West Water)
SUTTON-R	300	Sutton and East Surrey Water Services Ltd
WATER2BUS-R	120	Water 2 Business Ltd
Total	£149,260	

Each retailer was contacted on the 13th March, and followed with a letter, apologising for the incident and explaining the type and value of compensation. Retailers had the option of either: -

- Use the credit note against invoices that the Company raises.

- Request that we refund them the money.

In addition, the company is donating £2,500 to each affected school and has offered offer an education package of visits to South East Water sites and talks by staff on STEM subjects. We are discussing with schools on an individual basis.

E4. Provide details of how long you anticipate the process of compensating all affected customers will take and the methods by which the compensation will be paid (eg automatic, cheque). Will there be an application process for any elements of compensation? If so, please describe the process.

Households

All compensation payments were made directly to customer accounts in the week following the incident. All customers were written to on 10th March with a letter of apology, and advising the value of their individual compensation, and how it was being made as a credit to their account. A further letter to 585 customers in Bolney was sent on 19th March advising of an increase in compensation, following confirmation that the interruption was longer than indicated in our initial calculations.

Customers do not have to claim a credit, but if a customer contacts us to query their payment, these queries are being dealt with as a customer contact within GSS timescales.

Retailers

All retailers received a letter of apology and details of compensation on the 13th March. On the 19th March there were additional letters issued to retailers with customers We want to understand how water companies expect to provide customers with appropriate compensation for the disruption that they experienced.

6. Section F: Reflection and lessons learnt

F1. Provide details of what you considered to work well and what you considered to need future improvement for your company and why in relation to:

- a) Identifying and repairing supply interruptions and actions taken to prepare the supply and network system;**
- b) Communicating activities to customers/stakeholders (by customer/stakeholder type);**
- c) Identifying and supporting the needs of customers in vulnerable circumstances; and**
- d) Having the appropriate governance processes in place.**
- e) What were the biggest constraints to your company doing more, faster to respond to issues customers faced?**

Identifying and Repairing Supply Interruptions

- The Company's pre-planning worked, with the resource planning beginning as soon as practical and well before the cold weather started.
- The setting up of the incident team before the snow and subsequent freeze/thaw worked, with the business prepared.
- Our management of Health and Safety of our staff went well, and in spite of the additional work load and difficult weather, there were no health and safety incidents.
- The setting up of an incident team, well before the event started meant the wider business was aware of the risks.
- We allocated sufficient resources to finding and repairing leaks, to the extent that our gangs were not stretched by the number of bursts on our network.
- Our use of data was good, with our leakage system Aquanet providing DMA leakage updates every two hours.

- In future we need to be able to identify customer properties with leaks. Our metering programme and associated data helped, but with meters only being read every six months the data available was limited. Having more frequent data from customers' meters would help identify those properties which need help. We could then isolate those properties temporarily to reduce customer leakage and avoid the draining of service reservoirs
- The Company will carry out further research to understand the impacts of the cold weather on customers' pipes, and how to help improve customers' own resilience to cold weather. We will need to do more work to identify how we can communicate with customers more effectively in the lead up to severe weather events, and if we can gain information more quickly on which customers' pipes are leaking and use that information to improve our planning.

Communicating activities to customers/stakeholders (by customer/stakeholder type);

- We have also commissioned an independent review of our media and social media communications - looking at before, during and after. The findings of this and the customer research are not yet available, but we will share our lessons from these once complete.
- Our standby rota for the Communications Team was effective and our rota during the week ensured we were able to manage all media and stakeholder contacts. If the incident had continued we may have needed more external support or mutual aid - but we should review how we can increase social media resources out of hours as the communications team cannot manage social media. The difficulty is that during severe weather other communications teams both within the industry, or other resilience forum services are equally stretched.
- Our website dealt with a large number of contacts and was updated continuously. We contacted our providers early to ensure we had capacity for increased use. We were praised by national BBC journalists for the information on our website and ease of finding the information.
- Our proactive approach to local media was well received and helped ensure a channel for vulnerable customers to receive messages who may not use social/online channels.
- Customer feedback has been mixed – some high praise, others frustration. We are reviewing all the feedback and looking to develop a simplified “emergency plan” of information that can be used by customers and stakeholders.

- We are carrying out a full review of our social media coverage and will provide more lessons learned. We believe our use of Facebook Live during the incident worked well and is something we would do again - but need to develop this and practice more in normal operation.
- Setting up the Environment Team for farmers and livestock owners was successful and we should develop this into our plans. We should also review how we work with farmers and other livestock owners to ensure their resilience to interruptions to supply.
- Our communications during the incident itself felt, given the scale, effective. We received 81 complaints, but we also received some letters of thanks and praise.
- Where we want to do more is to see how we can increase the impact of our “wrap up for winter” campaign. We recognise that we cannot measure the impact of this campaign and the number of bursts on customer pipes suggests this is an area we need to focus on and carry out a full review.
- We need to have a further two-way conversation with retailers to understand what information they need and how best to provide it.
- We are supporters of WaterSafe and see this organisation as a key third party voice on plumbing issues. We worked with Southern Water to pay for a joint "boosted" posts and this did increase views and click throughs to WaterSafe website. We will look at whether we can do more of this for next year's campaign.

Identifying and supporting the needs of customers in vulnerable circumstances;

- Our work prior to the incident has resulted in a significant increase of the number of customers on our priority services register. This meant that during the incident we had good information on the vulnerable customers and how to support them.
- We prioritised work so that vulnerable customers were supported and we liaised with local resilience forums and the NHS to support customers.

Having the appropriate governance processes in place.

- We had appropriate governance throughout the incident. There was executive support from key Directors and the Chairman was informed and Board updated every day..

- Heads of Department were able to make appropriate decisions and resources were always available to support the incident team.

What were the biggest constraints to your company doing more, faster to respond to issues customers faced?

- Although we have good coverage of data of flow and pressure in our network, the real issue was that we could not identify those properties which had either high leakage or consumption. To help with this we are trialling a Smart Network in 2018 to see if the latest technology can help provide this data.
- The difficulties faced by Water Direct providing bottled water because of the regional scale of the incident and difficult weather conditions meant that in the early stages we struggled to meet customer demand. Future discussions with Water Direct and other water companies regarding capacity to supply large scale regional events is necessary.

Annexes of Supporting Information

Annex B1A Met Office News Releases 16 February 2018

There is increasing confidence that the recent Sudden Stratospheric Warming above the North Pole could lead to prolonged cold conditions over the UK, increasing the risk of easterly wind and significant snow.

Prof Adam Scaife, of the Met Office Hadley Centre, said: “Signs of this event appeared in forecasts from late January and in the last few days we have seen a dramatic rise in air temperature, known as a Sudden Stratospheric Warming, at around 30km above the North Pole. This warming results from a breakdown of the usual high-altitude westerly winds and it often leads to a switch in our weather: with cold easterly conditions more likely to dominate subsequent UK weather.”

These events are well reproduced and can be predicted in our computer models and although there is still uncertainty around the outcome of this particular event, there is an increased risk of cold conditions in the latter part of February, including the possibility of heavy snowfall.

Frank Saunders is a Met Office Chief Operational Meteorologist. He said: “A Sudden Stratospheric Warming implies around a 70 per cent chance of cold conditions across the UK. There tends to be a lag of about 10 days before we see the downstream effects on the UK’s weather, as it takes time for the influence in the upper atmosphere to feed down to those levels where our weather happens.

“The outcome for the UK’s weather is still uncertain, but forecasts from computer models at the Met Office and at other centres are beginning to coalesce around a greater likelihood of cold conditions in the days and weeks to come.”

The Met Office will continue to monitor events in the upper atmosphere and their potential to impact on the UK long-range outlook.

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Annex B1B Met Office News Release 19 February 2018

After a mostly dry and settled second half to the week across the country, it will gradually become colder in the south with bitterly cold, but still dry weather, expected to develop across the south east during the weekend.

As high pressure, currently centred over northern Britain, gradually migrates further north-eastwards, to become centred over Scandinavia, very cold air will spread from western Russia towards the UK. By Monday it will turn very cold more widely and this will probably be the start of the coldest spell of the winter. Many places will remain dry into the start of next week, but snow showers are expected to develop in some places, particularly across eastern and southern England. The cold easterly wind will persist bringing a significant wind chill which will make it feel several degrees colder than thermometers indicate.

There is potential for some disruptive snowfall next week, although the likelihood of heavy snow in any given location is very difficult to gauge; some places could see some significant amounts of snow, while nearby locations may receive very little. At this stage, we consider the region's most likely to have disruptive snowfall are parts of east and southeast England. Here, disruption to travel is possible for the start of the working week.

The high pressure over Scandinavia bringing the cold easterly flow is expected to remain in place for several days and there are signs that the cold spell in the UK is likely to last well into next week and perhaps into the following week. Met Office Deputy Chief Meteorologist, Brent Walker, said: "Whilst a major widespread snow event is currently not expected, some parts of Southeast England could have the first significant spell of snow so far this winter during next week. Indeed, there is potential for this cold spell to be the coldest for several years in the south". March 1st is the start of meteorological Spring, but this year the first week of march is likely to feel distinctly wintry.

The cold spell and the slow-moving weather systems are linked to a meteorological event that happened high up in the Stratosphere over the North Pole recently. After a lag the Sudden Stratospheric Warming (SSW) 30km above the North Pole, is now having an impact on the weather in Northern Europe. As a result, the increased likelihood of a cold spell of weather has been forecast for many days, but there is now greater confidence about the time scale and also the extent of snowfall. Weather computer models, which previously showed marked variation, are now aligning, giving greater confidence about the timing and location of the cold weather.

The Met office is working with partners in road, rail and air transport to help minimize the impacts on the public. Cold weather warnings have already been issued through Public Health England to help the National Health Service cope with increased health-related issues.

Dr Thomas Waite, of Public Health England's Extreme Events team, said: "With the days feeling a little longer and lighter it can be easy to forget that cold weather can still kill.

"Over 65s, those with conditions like heart and lung diseases and young children, are all at particular risk in cold weather as their bodies struggle to cope when temperatures fall. So before it gets cold check on friends, family and neighbours, who may be at risk and make sure they're heating homes to at least 18C, see if they need any particular help or just someone to talk to and keep an eye on the Met Office's forecasts and warnings. Remember keeping warm will help keep you well."

You can find out the current forecast in your area using our forecast pages and by following us on Twitter and Facebook, as well as using our mobile app which is available for iPhone from the App store and for Android from the Google Play store.

Annex B4 Freeze Thaw Action Log from 2011

1	Fittings	We will consider the introduction of a specific call code for frozen customer-side plumbing for next winter.	SG	<p>Specific call code to be established on HiAffinity, with supporting questions for advisors.</p> <p>QOS code and Call Guides being built into Ops QOS BRE</p> <p>Ops QOS BRE now live.</p>	Complete
3	Service Reservoirs	We will produce a list of Single Source of Supply from reservoirs and understand the risks and the possible remedies, including tankering.	DH	<p>Will require a significant study to identify volumes of customers on single res.</p> <p>Tankering assessment made and due to be presented to EIC. Single source of supply from reservoirs will continue to be an issue, overall flexibility programme being built into PR14 bid on resilience</p> <p>This will always be an area of vulnerability but current risk is less than our worst case planning scenario</p>	Action Closed
5	Call volume reports.	We will investigate the feasibility of linking call origination to Assets and DMAs.	SG	<p>We have begun a cross-referencing exercise to link the telephone-exchange network data with SEW DMAs for use with automated responses during incidents</p> <p>Work now incorporated into CTI / Channel development project. Scoping approved by ISSG and underway.</p> <p>Level of work and cost excessive for benefit obtained. No further development</p>	Action Closed
6	Telemetry	SEW Asset Team will investigate the real time modelling capability	DH	<p>Part of the long term view on accessibility and GIS strategy data is available now. Will pick up in OASSG. Nov 11 for strategy</p> <p>Mobile GIS of new system due for roll out by April 2012. Modeller best endeavour strategy developed and successfully used in incidents to date. Simplified sheets provided to Operations for incident management including populations served etc.</p> <p>Mobile GIS roll out delayed to Feb 13, but modeller arrangements formalised and desk based GIS much improved and will assist in incident management</p> <p>New intranet page created for incident management containing key incident information..</p>	Complete

21	MIP – rotation of supplies	SEW will assess the network modelling implications of running impact assessments and identifying ‘sacrificial’ areas.	DH	<p>Because the scenarios are infinite we propose producing a policy/principle document on issues to assess when modelling sacrificial areas including standpipe locations etc. October 2011</p> <p>Document produced and currently under review in Assets due for wider release in Jan 2012.</p> <p>Document produced reviewed and available.</p>	Complete
26	Protect your pipes – Winter Campaign	We will review the content of the messages, and the media used, prior to running the SEW 2011-12 campaign.	JG	<p>WUK burst pipes initiative has the opportunity to be backed by Government.</p> <p>Tied in with Government’s national Get Ready for Winter campaign, press release issued and web home page updated.</p> <p>SEW 2012-13 campaign being delivered via SWAN partnership with tie-in to Government’s wider Get Ready for Winter campaign.</p> <p>Campaign includes working with Canterbury University’s Students’ Union to film a winter ‘makeover’ in a student house and placing articles in their student magazine and on their website.</p> <p>We have also developed a Winter MOT checklist for small businesses so they can carry out a check of their company premises before shutting up for Christmas. We will be promoting this via our key accounts team, but also thorough Chamber of Commerce and IOD networks and newsletters.</p>	Complete
27	Protect your pipes – helpful information	We will review the website signposting for the WRAS approved plumber scheme.	JG	<p>Being reviewed as part of above. Also looking at industry initiatives to support lagging products from B&Q, plus Homeserve links.</p> <p>Better linkages to WRAS scheme via dedicated winter tips page, and Wrap up for Winter leaflet issued to circa 40k commercial customers containing WRAS info.</p> <p>Website now features promotion of Get Ready for Winter campaign and dedicated page, including WRAS link (“Find a reliable plumber”).</p>	Complete

30	Call Centre	We will review Standby Cover over a Christmas Bank Holiday	SG	<p>Standby cover over Bank Holiday weekends needs to be enhanced. Call outs are being experienced more frequently, and the standby approach needs adapting to reflect this.</p> <p>Contact Centre standby increased over Christmas and New Year Period. Extended OOH service proposed in CTC 2012-13 Budget.</p> <p>CTC Hours extended. Calls now covered by Customer Service Centre/CTC until 22:00, every day.</p>	Complete
33	Stakeholders	'Broadcasting' to all telephones in the affected area to be raised through the Water UK Customer Services' network.	SG	<p>This has been raised at Water UK. No one companies currently using such technology, but water UK will raise query on industry's behalf.</p> <p>This action has been passed to water UK. Unlikely to progress.</p> <p>Not considered feasible in UK. No further action will be taken on this.</p>	Complete
35	Website	SEW website capacity for concurrent visitors will be reviewed.	JG	<p>JG continues to work with IS (Andy James). Capacity has been increased, but work is on-going on whether this needs to be increased further</p> <p>Review is on-going. Current capacity is 160 concurrent users clicking on same page at the same time. This review is tied in with website redesign work (due to start Jan 2012). Future hosting the SEW website (i.e. internally or externally) needs to be agreed with IS,</p> <p>New and enhanced website hosting arrangements now in place with external supplier following completion of website redesign and redevelopment project in October 2012. Loading and resilience continue to be addressed by BIS as part of wider disaster recovery review.</p>	Complete
50	Service Pipes	SEW Asset team will seek a meeting with NIW after all reports on the Freeze Thaw incident have been published.	DH	<p>In progress – contact made</p> <p>Discussion held with NI water rep no benefit in visit all relevant information contained within the published reports</p>	Complete
51	Service Pipes	SEW collects information on repairs to service pipes, and will investigate what	DH	<p>Data to be collected as part of Ump programme in particular supply pipe location, material and condition. We will add supply pipes as individual assets on the main to allow data to</p>	Complete

customer-side
information is held.

be run against these assets, to
understand the potential liability.

Long term project.

Data is being collected and will
greatly assist risk assessment on
customer side assets. Also CMP
has increased communication pipe
programme reducing the risk from
these assets.

Annex D – Communications supporting material

We used a wide range of channels before, during and after the event to engage with our customers and key stakeholders. We are conscious that different people use different channels to receive their information and therefore ensured we used as many opportunities as possible to get the messages across. We have provided a summary of our approach in Section D - but this annex provides further detail and examples of our materials.

6.1 Media

6.1.1 Preparations for cold weather

When the cold weather arrives and heavy snow stops people in their tracks we know it could be too late to prevent burst pipes at home. That's why each year we issue our campaign messages ahead of the snow arriving in the early winter and continue to promote the messages as we hear of significant cold weather due.

We issued our first "Wrap up for winter" campaign press release in November to remind people to get ready before the cold weather arrives.

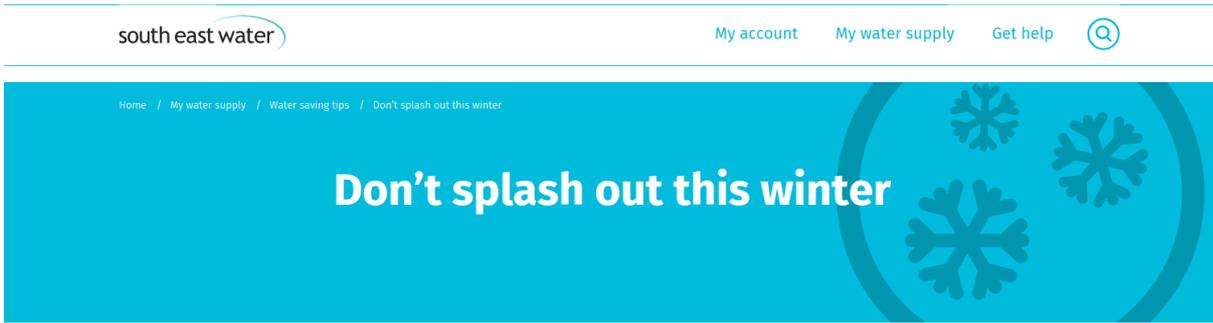
We also did a push to encourage customers to sign up for the priority services register so we can ensure that those who need extra help if things go wrong are contacted.

We continued the "wrap up" messaging in December and our team organised an online campaign with Affinity Water and Southern Water in Kent where we sponsored the weather page of Kent Online – the website for the KM Group. This included a link through to "Winter Water Counts" webpage (hosted on our website) which promoted winter water efficiency messaging, including wrapping up pipes to prevent bursts.

"You can also save water by preparing for winter cold snaps by wrapping up internal and external pipes and locating stop taps. These simple actions could help avoid the flood damage which can happen after pipes freeze and thaw suddenly."

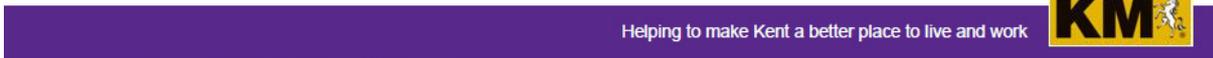
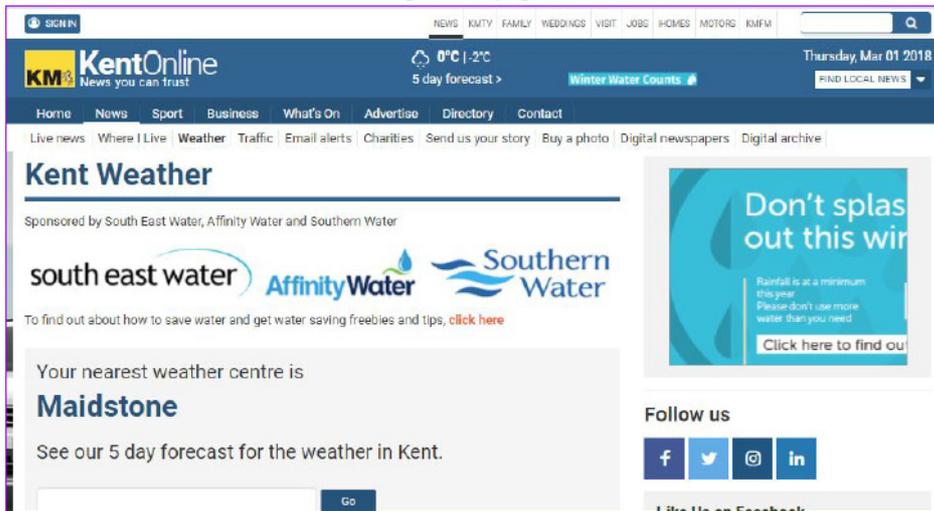
An accompanying press release was issued which included this message.

This is a screen shot of part of this page.



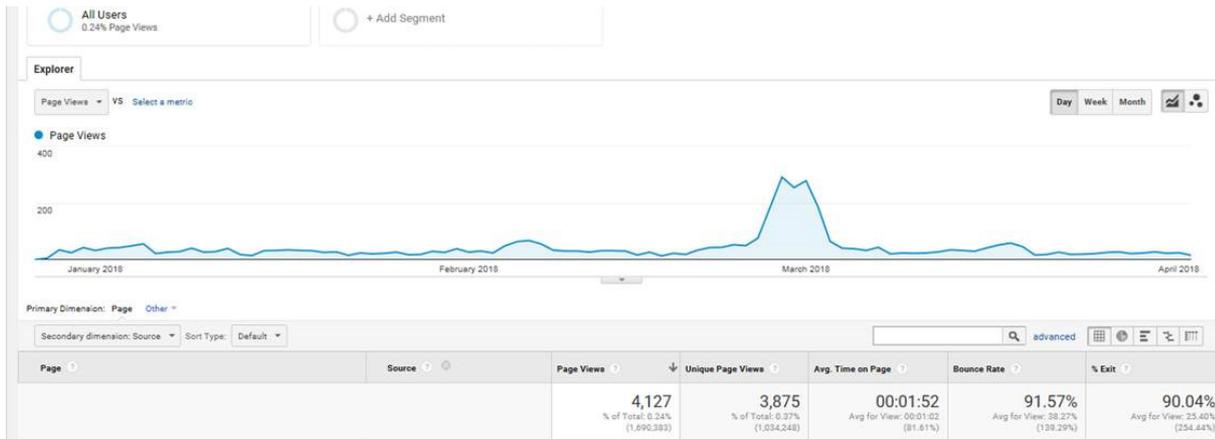
The [Weather Page](#) has received the following traffic:

- 62,484 pages viewed
- 40,730 unique users
- 28 clicks on the MPU advert running on this page



The weather page had good traffic with more than 40,000 unique users. Our webpage it linked to received 4,127 hits during the campaign. We feel this weather sponsorship worked well and is something we could develop an ongoing relationship with the KM - but also look for other regional newspapers to team up with to spread the message further next year.

- Total hits between 27 December and 3 April – 4,127
- Total unique users between 27 December and 3 April – 3,875
- Average time on page – 1 min 52 seconds
- There was a big spike in hits between Tuesday 27 Feb and Friday 2 March which correlates with when the snow fell in the Kent area.
 - Tuesday 27 Feb – 291 hits
 - Wednesday 28 Feb – 254 hits
 - Thursday 1 March – 278 hits
 - Friday 2 March - 186



January and early February saw a period of quite mild weather and a lot of wet weather. We prepared instead messaging which we could issue again when we were given the forecast that the weather was to turn cold again.

On 15th February we issued a release about a joint guide we had worked on with other utilities to provide customers with advice about what to do in an emergency and includes advice on what to do if you have a burst pipe at home and how to prevent them. Through this joint network around 50,000 leaflet are in circulation.

<https://www.southeastwater.co.uk/media/1394/utility-networks-booklet-2018.pdf>

WaterSafe is an organisation we support and they regularly promoted messages throughout the winter. They ran regular social media activities and press releases as part of the “winter ready” messaging. We shared their messaging via social media and included information about the organisation on our website and in our own media messaging.

6.1.2 Actions taken during the week

When the snow then descended it was too late for further proactive measures by customers if they hadn't already lagged their pipes. So we issued a press release on the 28th February advising what to do if a frozen pipe bursts.

<https://corporate.southeastwater.co.uk/news-info/what-to-do-if-a-frozen-pipe-bursts>

We reinforced this advice again on the 2nd March with a further release.

On Saturday 3 March we continued with social media messaging advising what people should do if a frozen pipe bursts. We also responded to ‘no water’ messages. Approaches were made to the Communications’ teams in our neighbouring water companies – Southern Water, Portsmouth Water, Affinity Water and SES Water – to

establish what was happening across the south east which at that stage was patchy and not in any pattern.

On the 4th March we could see that the operational issues were not down to a few key sites and that this was a wider issue. This was across the network. A press release was issued urging customers to report leaks to us, to check business properties and review their home plumbing.

<https://corporate.southeastwater.co.uk/news-info/help-needed-to-find-leaks>

At around 13.15 we provided heads up to Ofwat and CCWater Communications Teams about the situation.

Gold Command was keeping Defra and DWI updated.

We were conscious this was a wide issue across the South East and that as much of our media network crosses with Thames, Southern and Affinity a joint notice would be appropriate. We made contact and Thames Water prepared the joint message which was released.

<https://corporate.southeastwater.co.uk/news-info/water-supply-problems-issued-on-behalf-of-thames-water-affinity-water-southern-water-and-south-east-water>

While we were getting a lot of interest via social media, we were aware that we needed to find a way to communicate with other customers, particularly the vulnerable or less mobile, who were not already on our priority services register.

We therefore targeted our local newspapers, local radio stations and the regional news channels as key opportunity to ensure updates were being issued as we know these local stations are often used by our older demographic. We decided we should ensure every opportunity we offered up someone for interview. Our Director of Operations took the lead on these interviews.

Throughout the event we gave 27 radio and TV interviews including a slot on the BBC national news at both 6pm and 10pm on Tuesday 6 March.

During the incident we arranged for our own photographer to attend site and visit a number of sites – e.g. bottled water, customer care team, bowsers for farmers. This gave us much more material to provide journalists, increase opportunities for coverage and for our own social media use.

Over the course of the supply interruption a further four press releases were issued:

<https://corporate.southeastwater.co.uk/news-info/south-east-residents-urged-to-save-water-as-supply-interruptions-continue>

<https://corporate.southeastwater.co.uk/news-info/water-company-continues-to-work-on-supply-issues-across-the-south-east>

<https://corporate.southeastwater.co.uk/news-info/water-company-continues-to-work-on-water-supply-issues-across-the-south-east>

<https://corporate.southeastwater.co.uk/news-info/water-supply-returning-to-customers-in-kent-and-sussex>

Before a final thank you message when we knew that supplies had returned for all. Conscious though that there is still a lot of leakage to be found we continued to ask for help reporting leaks and asking customers to help use water sparingly. We thanked all those third party organisations that also supported us.

<https://corporate.southeastwater.co.uk/news-info/community-spirit-praised-following-extreme-weather>

We received positive feedback from our local broadcast journalists for the proactive approach we took.

Meridian Journalist said: *“It made a huge difference for us to be able to access real people and I hope it helped viewers appreciate the efforts being made to reconnect them to the supply. Nearly everyone I spoke to was perfectly reasonable about the situation and I think it’s my job to reflect that.”*

BBC Radio Kent Breakfast Producer said: *“As the breakfast show producer for BBC Radio Kent – I just wanted to say thank you for the honesty and access you have given us.*

“It was so refreshing to have an ability to challenge, and talk honestly with your team; Our listeners have expected us to represent them and their troubles. So to be able to put the frustrations they’ve faced to your colleagues and not have them shy away from tough or challenging questions is very refreshing in an era of ‘statements and no comments.’

“It allowed our listeners to empathise and understand – as well as feel represented.

“The best thing I can say is keep putting people up to be challenged and heard from – I can see from the comments listeners made, it created a respect; even if they wasn’t happy with the situation.”

6.1.3 Lessons learned and actions planned

We received some media interest in our wrap up for winter campaign itself before the snow arrived, but this did not get picked up as widely as we would have liked. Press coverage during winter had really been focused on potential for drought in the spring

and therefore they took less notice of the winter messages – especially as we had such a mild start to the winter.

Action – Communication team to review ways to engage media in these messages earlier for next year and increase coverage.

The use of local online weather page for sponsorship attracted good numbers. The focus of this had been at water saving generally, but it was useful to promote the winter messages. Doing this in conjunction with other neighbouring companies worked well.

We found that some local online websites were running a general video clip advert from Thames Water and Severn Trent Water. The information itself was useful, but possibly confusing for customers in Sussex as had their contact details.

We recommend that next year we should all work through WaterUK to develop a generic industry wide advertising campaign that could tie in with Watersafe.

Action – Discuss with WaterUK potential for an industry wide advertising campaign

Professional photos were useful as meant we were able to issue these out to media and use ourselves for our webpages and social media. These helped tell the story and show the work we were doing.

Action – Add calling on our local photographers to attend site as part of our incident checklist.

Some of the team manning the bottled water stations were worried with the press arriving on site and them not having someone from the press team there. We could look to split the press team into two cells and have one at HQ and another based at a bottled water station. The only issue with this is if lack of phone reception/wifi it's difficult for those on the ground - you can also get sucked into dealing with localised issues rather than the media themselves.

It worked well having some of our “on the ground” employees available to interview too – such as taking journalists out with the Customer Care Team. It gave a different angle to the story and showed the human side of us. Having a dedicated manager to cover interviews with TV and most radio was helpful to have a consistent voice. We did use the overnight incident manager for the very early Breakfast Show radio interviews to provide the very latest situation updates first thing.

Action – Communications Team to review plans for how they could set up as an “on site” team. Include into Emergency Plan that a senior manager is given the role of press spokesperson.

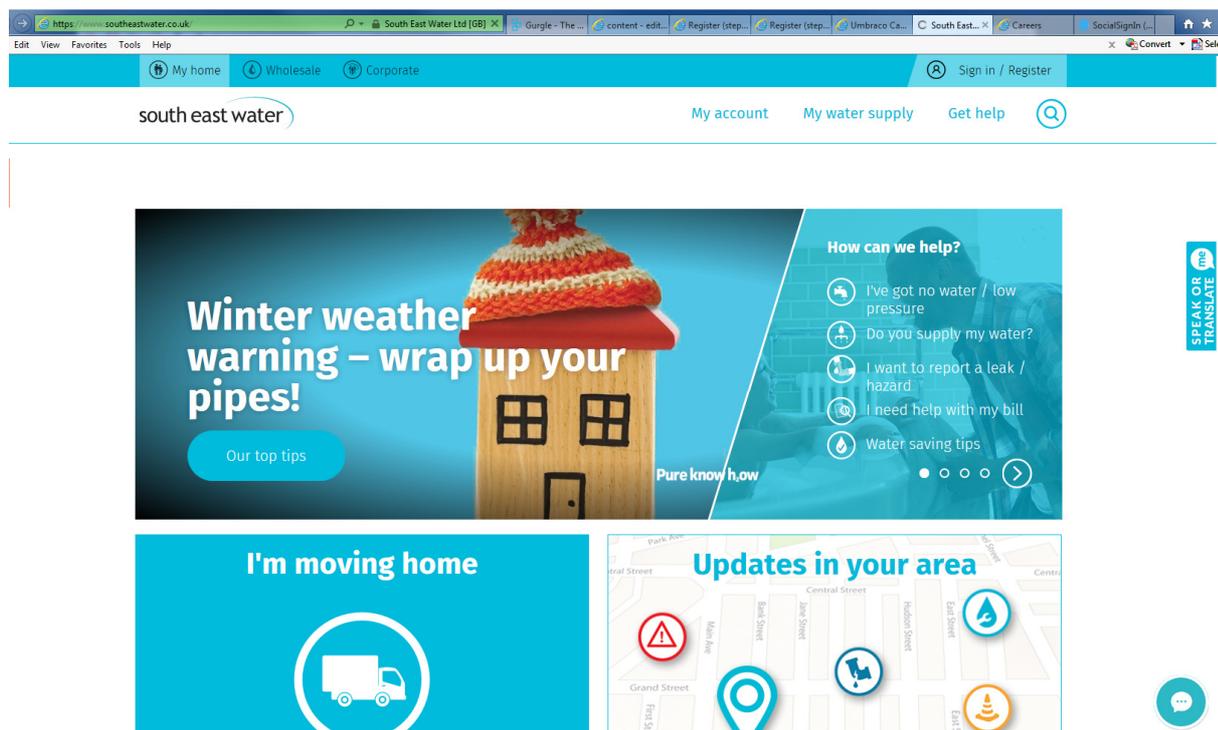
6.2 Website and social media

6.2.1 Preparations for cold weather

We had created our “Wrap up for winter” pages on the website which was promoted as part of our winter campaign launched in November.

<https://www.southeastwater.co.uk/my-water-supply/wrap-up-for-winter>

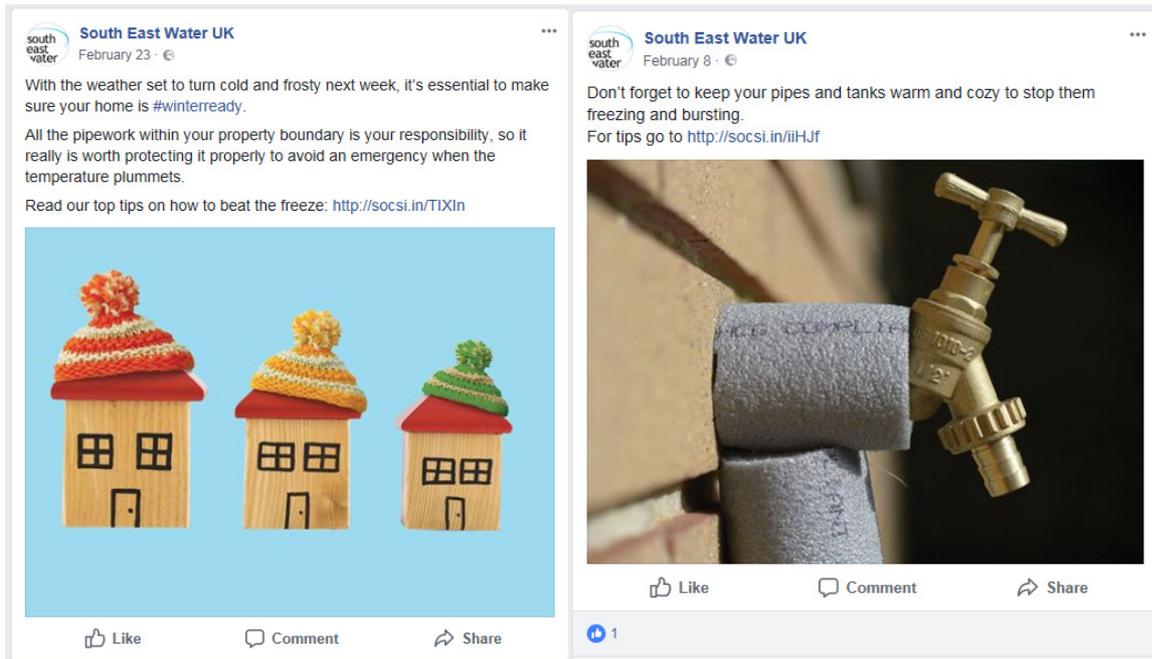
Throughout the winter we’ve promoted this page including via our homepage banner (see example below).



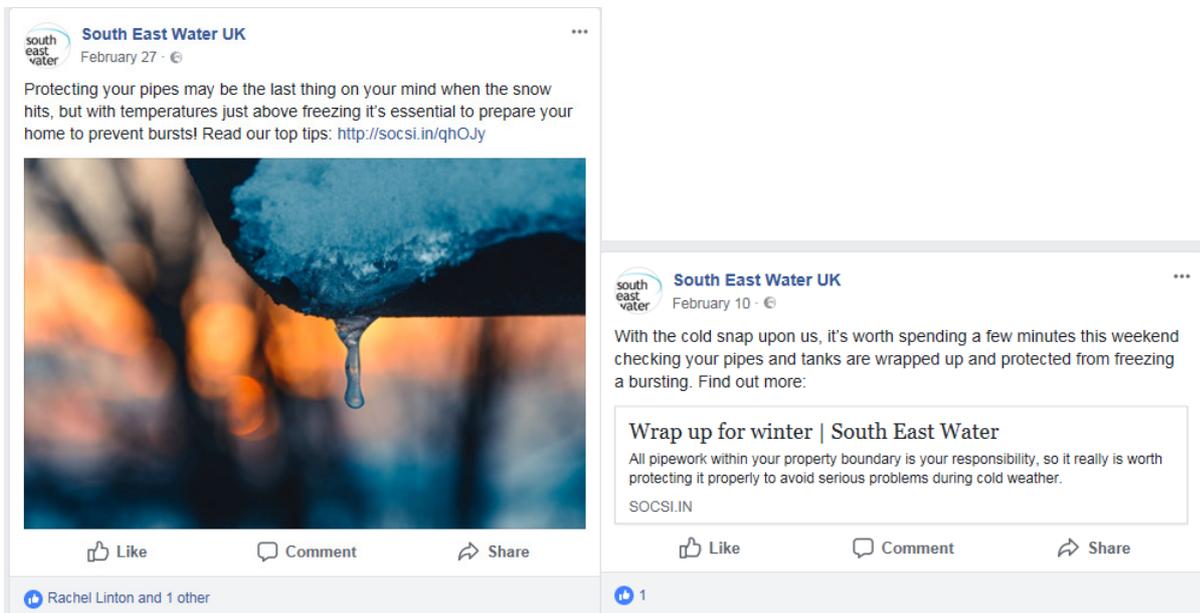
When the snow arrived we also developed additional messaging to advise customers how to check for leaks on their properties.

<https://www.southeastwater.co.uk/my-water-supply/water-supply-problems-across-the-south-east/how-to-check-for-leaks>

Throughout the winter we have shared these messages via our social channels (Twitter and Facebook)



We also supported third parties who were issuing winter preparation messages such as CCWater and Watersafe.



We kept the messages going as the weather got colder and the snow arrived.



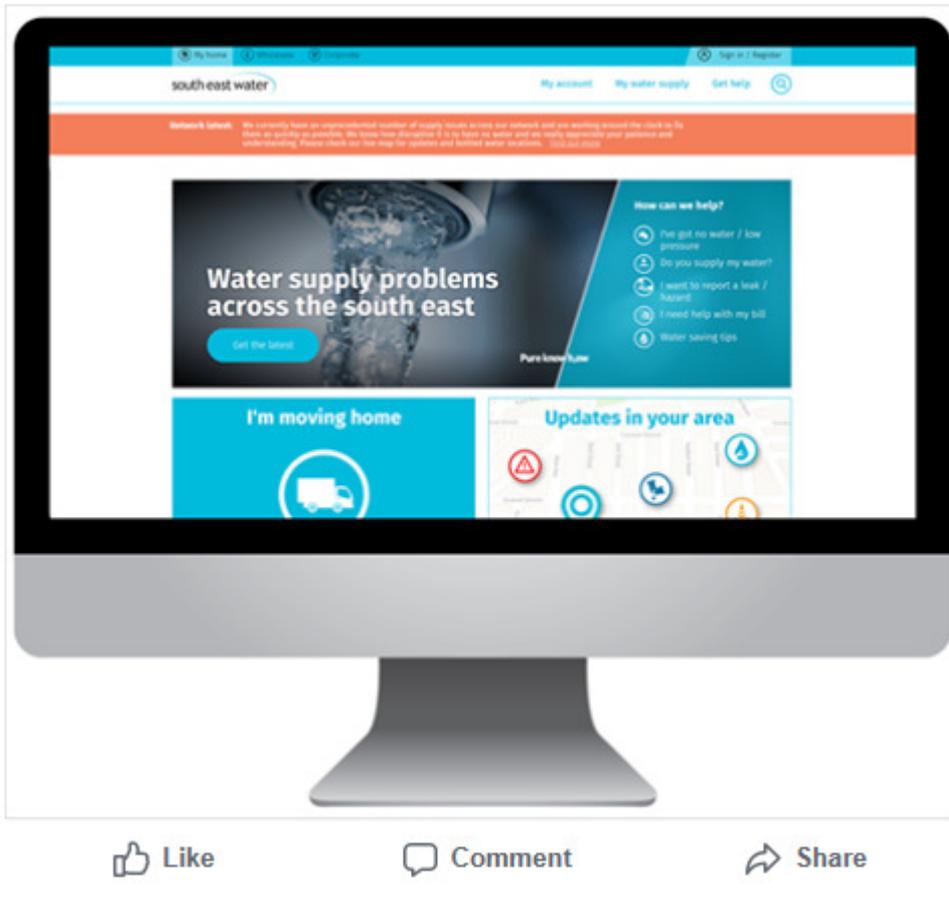
We also promoted our wrap up for winter video which showed people how to lag their pipes on both the website and social media.

<https://vimeo.com/245376704>

<https://www.southeastwater.co.uk/my-water-supply/wrap-up-for-winter>

6.2.2 Actions taken during the week

When we knew people were without water and this was an ongoing issue we updated our home page. We had our red emergency banner along the top of the website. But also put our main homepage banner as a quick link through to updates.



During the incident we created a dedicated update and FAQ page which included details about location of bottled water.

Between 3rd March and 8th March we updated the website a total of 242 times.

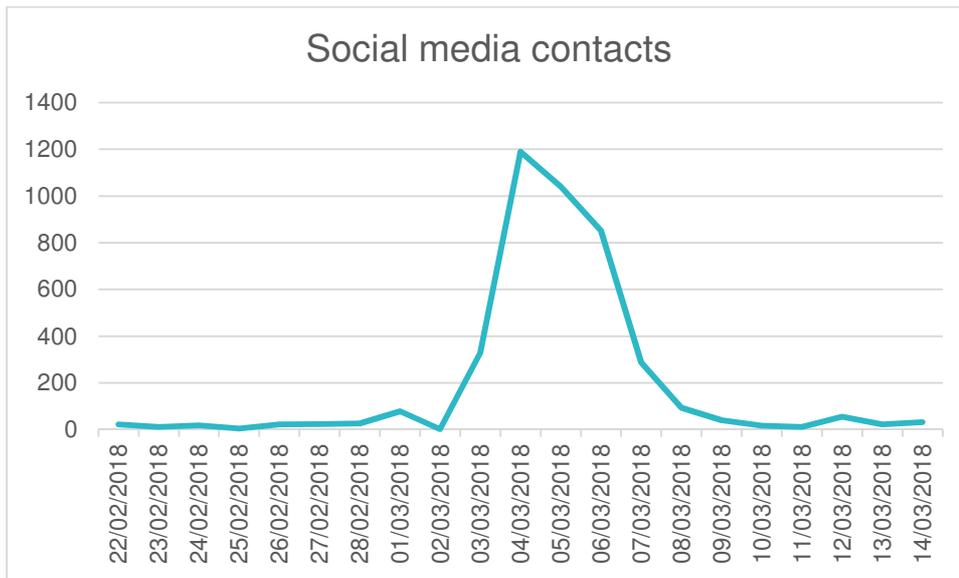
We also have our “in your area” map which gives specific localised information. These maps were updated with wider impact areas.

Social media activity increased significantly during the weekend.

From the 16th February to the 2nd March (inclusive) we received 273 contacts via social media.

Then on the 3rd March the number of contacts increased significantly – with 329 contacts.

The peak contact was on the 4th March where we received 1,190 contacts as the graph shows.



From the 16 February to the 14 March we received a total of 4245 contacts. 89% of these were during the six days 3rd to 8th March.

Due to the significant increase in contacts we realised we had to keep proactive messages going, but we couldn't respond to every individual comment.

We ensured we maintained regular updates and tried to ensure we kept our messages with images, video content and call to actions - with links for more information.

Between 4 March and 9 March we issued more than 174 proactive posts on Twitter and Facebook (not all proactive posts were assigned to this incident), which resulted in 26,000 link clicks, 934 shared posts, 638 likes and a reach of 4.2 million people.

Examples from social media

east water March 5 at 8:35pm · 🌐

@nus_ghani Bottled water will be available until 9pm at the following locations:

- #Wadhurst – Greyhound Pub, High Street, TN5 6AP
- #Rotherfield – Community centre, TN6 3LX
- #Crowborough, Waitrose, TN6 3LH
- #Cuckfield - Beacon House, The Old Hospital car park, RH17 5DS



Like Comment Share

Liz Everest and 8 others Top Comments ▾

51 Shares

South East Water UK March 6 at 11:34am · 🌐

A big thank you to Community Wardens from Kent County Council for helping our staff deliver water to customers!



Like Comment Share

5607/

South East Water UK March 6 at 7:29pm · 🌐

We're also arranging static tanks of water where you can bring your own containers or use ones we provide to collect the water and use it to flush toilets, while still drinking the bottled water that will be at the collection points until 9pm: <http://socs.i.in/0CntZ>



Like Comment Share

Rachel Linton, Jim MacIntyre and 9 others Top Comments ▾

16 Shares



We used Facebook Live with our Operations Director giving regular updates. This was the first time we'd used this in an incident and it became a really useful way to quickly get updates out. We boosted one of the posts which achieved 8,000 views. In total all the Facebook Live posts received 14,000 views. We would definitely look to do this again in future.

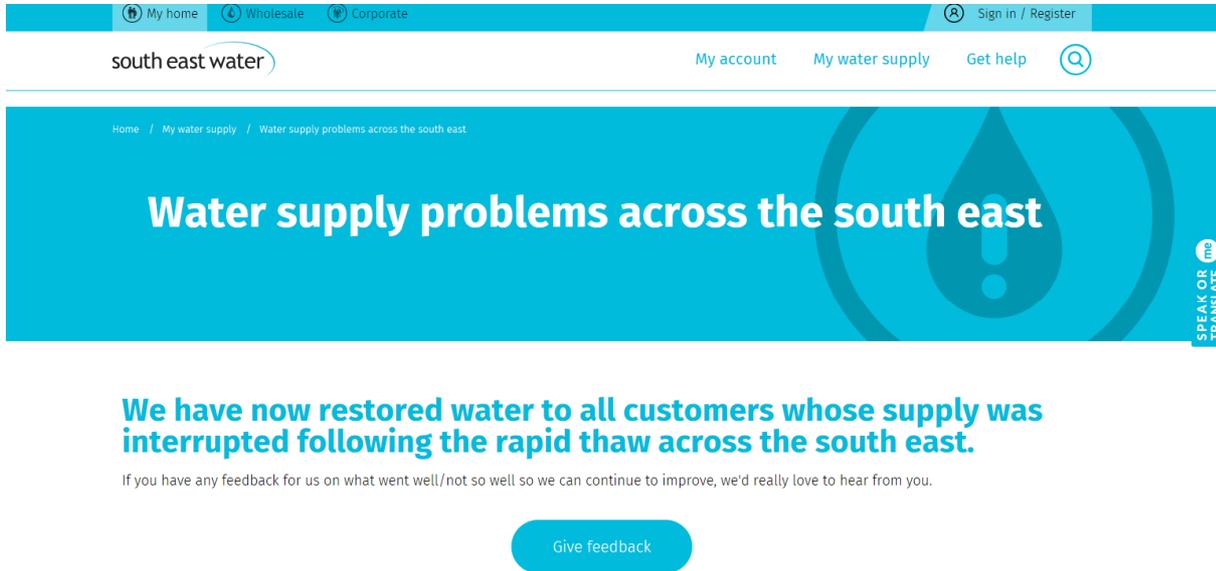
We worked with resilience forum and our contacts to help share messaging via their social channels (see stakeholder section

later).

When the incident was over we used social media to say thank you – but also to continue to push messages about checking for leaks on properties – while it is in people's minds to do so. **While we couldn't respond to all social media messages during the incident, our social media team responded to all public and private messages in the days after the incident to ensure everyone was ok and had their supplies restored.**



We also updated our website when supplies began to return to give customers an opportunity to quickly provide feedback. This was also provided in the apology letters sent out after the event.

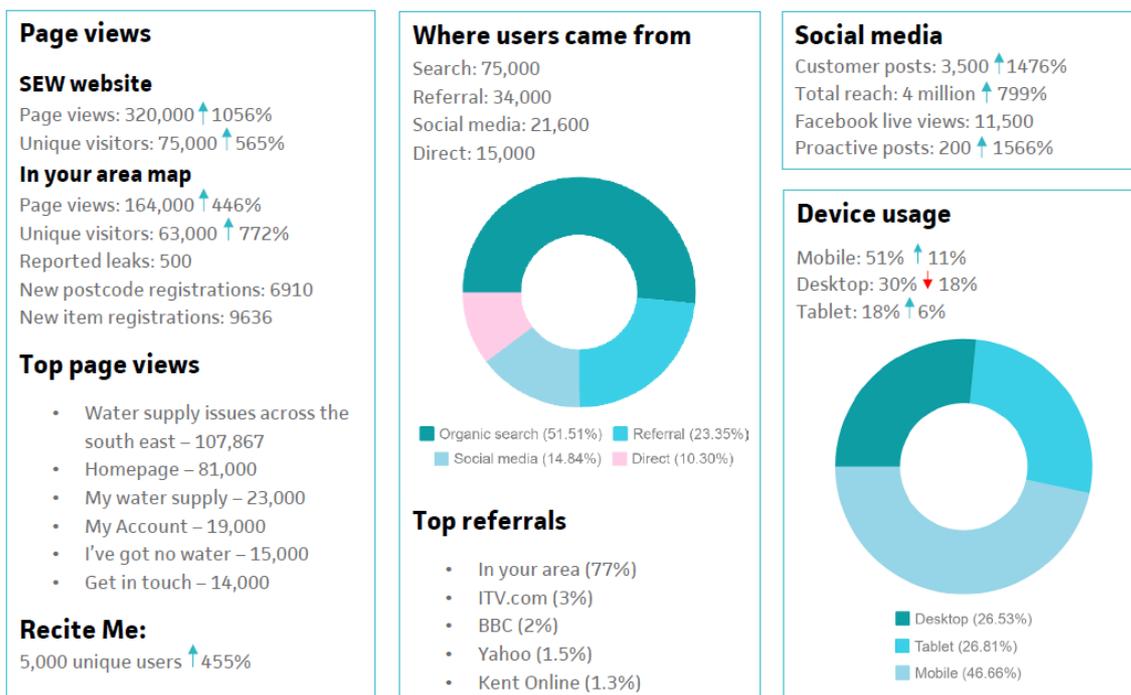


6.2.3 Lessons learned and actions planned

The website was our number one tool for keeping customers updated. During the week we saw page views on our website of 320,000. We also had our website translation and accessibility tool, ReciteME, used 5,000 times.



Web and social media stats (3rd-7th March 2018)



The new system was much easier for the Communications Team to be able to quickly update and particularly make the homepage quickly very clear to direct people to information.

Due to the mobile enabled system we need to remember that if text put in columns that you can have to scroll to the bottom to get info that on a desktop looks like it's at the top. We learnt this early on and amended to make it easier to quickly find bottled water locations.

CCWater's Communications Manager emailed us during the week to say that the BBC National News had highlighted our website as being the easiest to find information.

Action – Communications Team to prepare an agreed template for incident web messages and review the FAQs each year as part of winter preparations.

The "In your area" map had 164,000 page views (up 448%) with 63,000 unique visitors (up 772%).

There were 6,910 new postcode registrations and 500 leaks were reported via the portal.

We did find it difficult to keep up with the In Your Area map updates and website to keep consistent.

Action - Review how these systems work together during large scale incidents.

Social media had more contacts than the call centre received during the week. But we were not resourced to the same level. We should review how we resource social during an incident and access for the digital team to have remote login in case unable to reach the office.

Keeping up with queries and questions from the Digital Team was difficult. We think assigning a Social Media comms lead as part of the rota may be sensible approach.

Facebook Live worked really well – we should definitely continue to do this and also use boosted posts to increase engagement.

Social media comes into its own during an incident. But the amount of interaction outside of this – for example our proactive campaign to “wrap up for winter” was less engaged with. We will look to how we can boost engagement and try to encourage people to take our advice early on - rather than when it's too late.

We didn't use LinkedIn during the incident. We could look to use LinkedIn next winter to push a proactive campaign to business people about preparing their businesses for winter.

It worked well our various partner organisations sharing our messages and posting their own messages to help get the message across.

Action – Complete independent review of our social media work and implement lessons learned into our digital strategy.

Action – Initiate a knowledge sharing event with colleagues from other companies and resilience forum/emergency services.

6.3 Stakeholder engagement

6.3.1 Preparations for cold weather

We issue an electronic newsletter to our stakeholders with information and links to webpages for them to share. Our winter 2017 newsletter included the reminder about “wrap up for winter”.

<https://mailchi.mp/southeastwater/sbk7cs9hbk?e=5c37617d51>

We also ensured we supported any events run by our local resilience forums and at any opportunities gave out our "Wrap up for Winter leaflet"



This is a leaflet we have available for any community events we run. The Customer Care Team had these for the many community events they attended and we issued through our Autumn Open Days with the goodie bags and any community talks

given. We also had this information available at any of our Drop-in sessions for customers where we were communicating about engineering schemes.

Hailsham Resilience Community Event: 21 November 18:00 to 21:30

The event, arranged by Sussex Resilience Forum, was attended by approximately 80 people from Parish and County Councils, the emergency services and charities. The event centred around cold weather emergencies and the advice residents should be given and the help on offer during these times.

We had a stand where we displayed our cold weather advice. This included information on how people should protect themselves against frozen pipes in the home as well as water efficiency advice. The display on our stand included our Wrap up for Winter leaflet, examples of WRAS approved pipe lagging, our water efficiency leaflet, water efficiency devices and our Wrap up for Winter video was played on loop.

At the event we provided advice and information to a range of councillors and representatives from the Sussex Resilience Forum, urging them to pass this information onto their constituents.

Water Regulations Team visits

The Water Regulations Team visit numerous businesses during the year to promote how to look after your plumbing correctly. We completed 1090 inspections and 604 reinspections over the 2017/18 period.

6.4 Actions taken during the week

We issued out regular updates to our stakeholders throughout the week.

This included using MailChimp to send out regular updates.

Example Mailchimp messages - <https://mailchi.mp/300f04edf1d8/important-winter-water-advice-from-south-east-water?e=%5bUNIQID>

Due to the widespread nature we worked closely with the Resilience Forum to help with issuing messages and ensuring those who needed information were informed. Especially in the early days when things were quickly changing this meant the team could focus on getting the messages prepared and issued to this group – rather than trying to target specific localised areas.

We were pleased to see that a number of councils - not just those specifically affected helped to share our messages, particularly about finding and fixing bursts. For example - Basingstoke Council created a webpage about snow and ice and included our advice.

During the event the Communications Team worked with our Emergency Planning Manager to arrange contact with our local resilience forum.

The Sussex Resilience Forum set up a specific Comms Cell which spoke daily (sometimes twice) and agreed key messages, aligned our advice messages with Southern Water and they helped to share the messages.

Those organisations involved were:

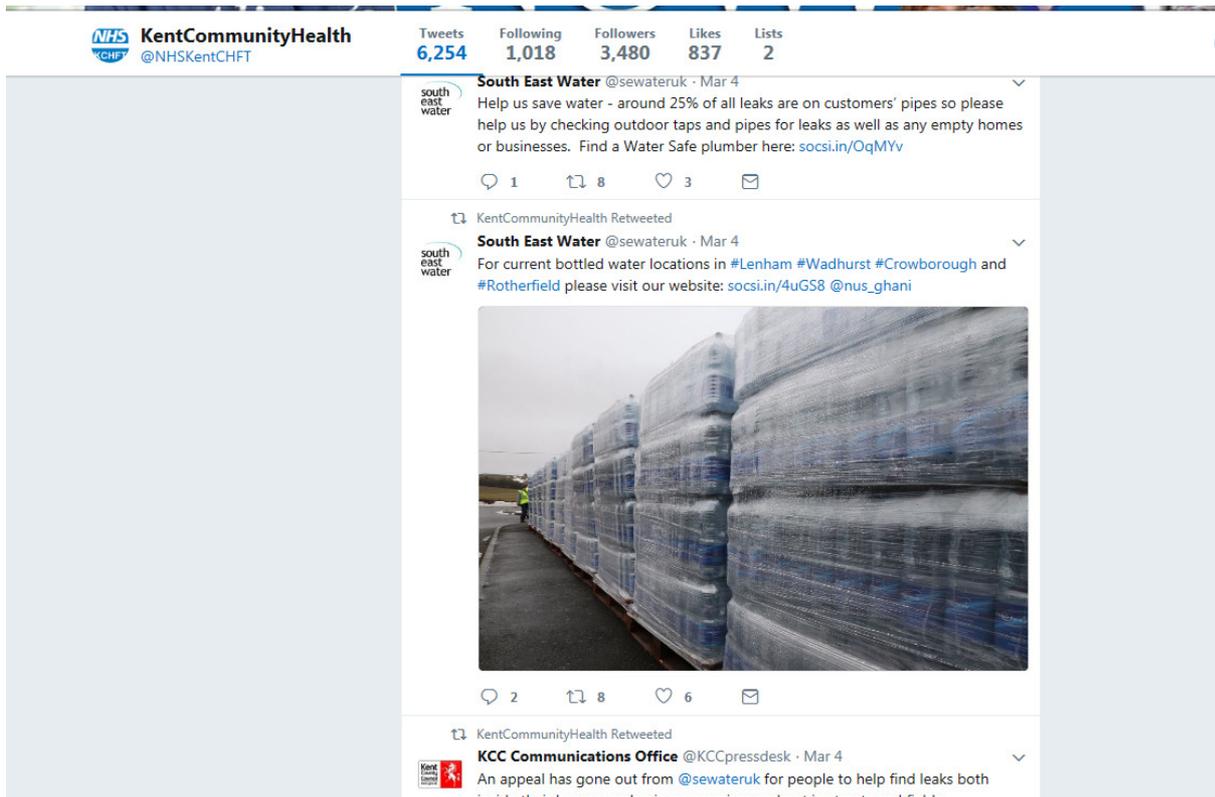
- East Sussex County Council (who kindly Chaired the call)
- West Sussex County Council
- Southern Water and ourselves
- Sussex Police
- Hastings Borough Council
- Wealden Borough Council
- East Sussex Fire and Rescue

We were very grateful to these organisations for helping to share our messages and for putting their own messages out and advice to their teams on the ground too.

We provided regular updates to all our local MPs but also provided specific updates and information to MPs whose constituencies were particularly impacted.

We wrote to those MPs afterwards with a detailed letter, map of area impacted and offer to arrange to meet to discuss the incident and our work to secure resilience for the region.

Our connections through some of our other programmes of work were helpful in the incident. For example the NHS Community Health team we worked with on our hydration campaign for older people helped to share messages across Kent (see twitter below). They also briefed their team that visits people at home to check if people have water and to assess their home for any sign of bursts or leaks following the thaw.



The Gold Command Team was involved in keeping other key stakeholders updated via a daily teleconference this included – other water companies, Defra and Ofwat.

This was the first large scale incident since the new retail market had opened. We communicated with the retailers via our Wholesale Team. This included:

- On Sunday 4th March we called the major retailers to inform them of the incident.
- Sunday 4th Sent first Retailer email to all Retailers
- Monday 5th March- 2 dedicated resource made available to arrange for non-household leaks to be repaired. Lessons learned and actions planned

We should look to see if we can use the experience of the 2018 to encourage wider stakeholder engagement in our campaign for next winter and the importance of their input to support the campaign.

The use of MailChimp meant it was much easier for us to get updates out regularly.

We are developing a dedicated stakeholder area of the website where we can provide a toolkit for stakeholders to use to help share messages. We have done this for our WRMP material <https://corporate.southeastwater.co.uk/about-us/your-water-your-say/publication-materials> - we believe we could use the same approach for “Wrap up for winter” next year and provide our stakeholders with the materials they need.

Action – Develop dedicated stakeholder area for our campaigns to provide them with material to use.

Use of the Resilience Forum was really helpful as they all shared our messages and helped ensure organisations we might not be aware were kept informed. It did get difficult with the spread of the issues. If we had had issues in our Western Region too then trying to keep up with the number of meetings and calls would have got difficult.

Use of our network of contacts worked well with Communications and Community Groups helping to share information. We should look to see where we can replicate these contacts in other counties – for example the Kent NHS Community Health worked really well - can we have the same in Sussex, Hampshire etc.

Action – Review how we can ensure regular engagement with the Resilience Forum. Also develop our stakeholders in other regions to build on the relationships we have in Kent.

Annex D4 Copy of Letter

Date:



Telephone: 0333 000 1122
Email: www.southeastwater.co.uk/contact

Dear Customer

Private Supply Leak

Our local inspector attended your property today and discovered there is a leak taking place on your private supply pipe.

To limit the volume of water being lost through leakage and to prevent any damage happening to your property the water supply has been turned off.

Please contact on 0333 000 1100 to arrange for an engineer to attend and carry out repairs.

Yours sincerely

Steve Andrews
Head of Central Operations

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