
south east water

Case for excluding supply interruptions minutes resulting from civil emergency in February 2022

South East Water

July 2022

South East Water
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1. Introduction

This paper sets out the case for excluding the supply interruptions minutes recorded by South East Water in February 2022 resulting from a civil emergency. The civil Emergency was the result of the impact of three storms. The storms did not do any significant direct damage to South East Water's assets, but had a severe impact on the assets of UKPN (UK Power Networks). The extent of the loss of power to over 100 South East Water sites overwhelmed our back up facilities. Water supplies were not immediately impacted in most cases, because our networks have inbuilt resilience, including generators at critical sites, and can continue to supply our customers. However, the succession of storms prevented UKPN from restoring supplies and we continued to experience power failures at a large number of our site for many days.

Overall the incident has cost us £2m in damaged equipment, emergency response and replacement generators. South East Water has therefore already incurred a significant cost from an incident which was completely beyond our control. The causes of the incident were the failure of a third party caused by the unprecedented adverse weather, which UKPN described as the worst storm in thirty years. We do not underestimate the inconvenience caused to our customers by the interruptions in water supply which resulted, but our customer research shows us that customers are mostly understanding that these storms were not within our control. It would obviously be possible to have back up generators on every site, but this would be very expensive and would not represent good value to customers. This paper will show that our preparedness and our contingency plans were both comprehensive and, that these represent good value to customers.

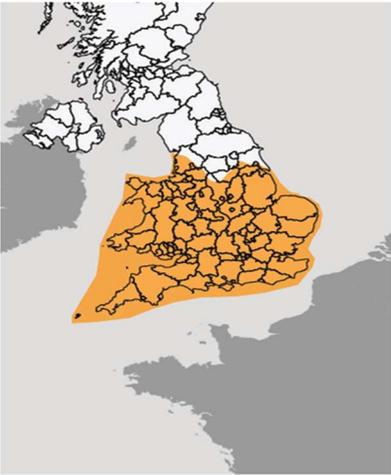
2. February Storms Background

February was the first time ever that three named storms arrived in a 7 day period. Storm Eunice had the greatest impact on South East England. This was one of the worst storms South East England has experienced in 30 years. Storm Dudley impacted on 16th and 17th February. Storm Eunice impacted on 18th of February. Storm Franklin impacted on 20th of February.

 Met Office
National Severe Weather Warning Service

! Amber warning **Wind**

Between **03:00 Fri 18 Feb 2022** and **21:00 Fri 18 Feb 2022**

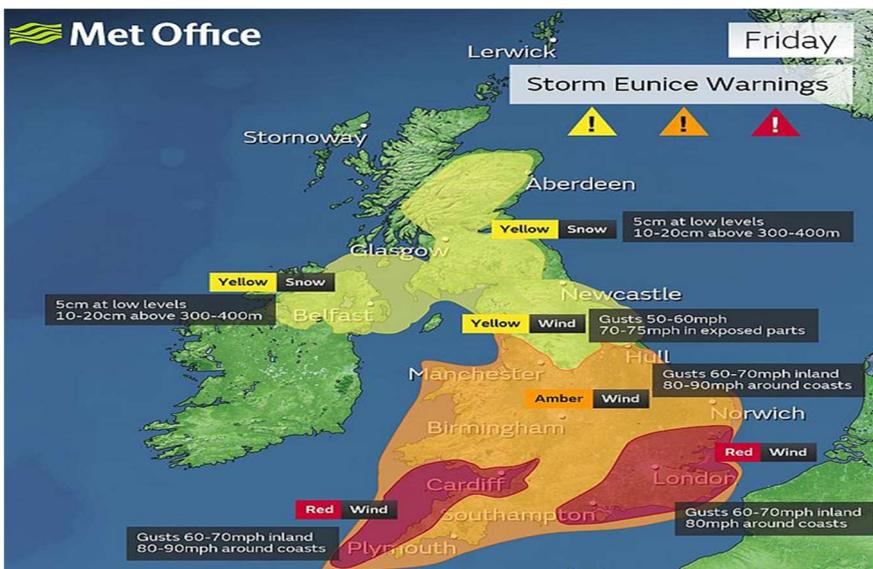


Storm Eunice may cause significant disruption due to extremely strong winds on Friday.

What to expect

- There is a good chance that flying debris could result in a danger to life
- Damage to buildings and homes is likely, with roofs blown off and power lines brought down
- Roads, bridges and railway lines are likely to close, with delays and cancellations to bus, train, ferry services and flights
- There is a good chance that power cuts, possibly prolonged, could occur and possibly affect other services, such as mobile phone coverage
- Large waves are likely and beach material is likely to be thrown onto sea fronts, coastal roads and properties
- It is likely there will be falling branches and some uprooted trees

On 14th February Met Office issued a yellow weather warning for high winds expected on the 18th February. On 16th February, the Met Office upgraded to an Amber weather warning. On 18th February the Met Office upgraded to Red between 10:00 and 15:00



3. Our preparation

We have a winter preparedness check lists which are followed each year ahead of winter storms. We use weather tracking software to ensure we have the latest met office data called 'visual eyes'.

In advance of these storms arriving we had already put in place preparations based on the Amber weather warning and an event team had been mobilised. We maximised our storage position, ensuring that our reservoirs were full and would continue to keep customers in supply for as long as possible. We minimised outage, suspended planned work and maximised our standby resources. Our normal generator preparations were put in place.

Most power supply impacts are resolved within 24 hours and we work closely with power companies to ensure our sites are prioritised, however this prioritisation was not possible in the context of such extensive interruptions.

We have specific plans in place for power outages. Our most critical sites have dual power supplies, some have fixed diesel generators, some have generator plug in points to enable mobile generators to be connected up, we have towable generators and arrangements with local generator provider MEM.

We use this range of mitigation because the cost to our customers of having fixed generators on every site would be disproportionate to the risk and likelihood of this type of event occurring. Even if such events as this are becoming more likely due to climate change, we don't think the cost of purchasing generating capacity to fully replace network electricity would ever be good value for our customers.

Initial meetings, prior to the storm impact, were held with the Kent Local Resilience Forum (LRF). We had anticipated Kent to be the area likely to be worst impacted at the start of the week.

Alternative water stocks were increased. Over 100 pallets were delivered to augment stocks. Further stocks were delivered as the extent of the emergency became clear and we set up a delivery hub at Pease Pottage Services to enable quick deployment to bottled water stations as required.

4. Impact of the storms

Storm Eunice caused power networks record outages with 1.3 million homes and businesses impacted, this included a major high voltage (HV) fault supplying the rural area of Sussex around Hastings.

Storm Franklin then delayed the return to supply of power networks because conditions working at height remained unsafe for energy companies until Monday 21st February.

This combination of two named storms, following in quick succession, delayed UKPN supply restoration. This made it a truly exceptional event not similar to anything that we had experienced previously.

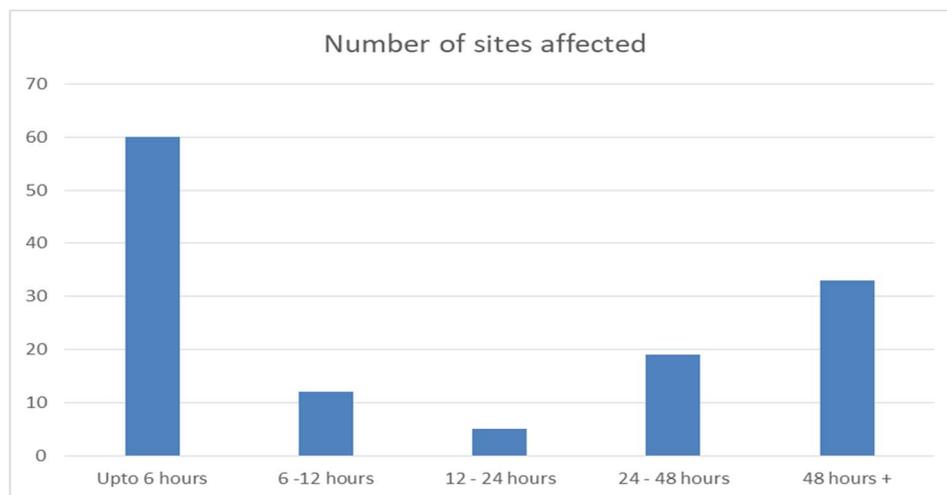
Impacts were felt across all regions, but East Sussex saw the worst impacts due to a High Voltage fault and the consequential intermittent supplies until this fault could be fully resolved.

All impacts to SEW were caused by the failure of the power network, and as such, were completely outside of our control.

Impacts were significant and unlike previous events, over 100 SEW sites were impacted including sites with dual supplies. Some sites were impacted multiple times and others were impacted with low and high voltage issues, causing electrical faults on sites and two fires on incoming supplies as UKPN incomers overheated. Our contractors for emergency generators were unable to supply us with generators due to the widespread nature of the emergency which overwhelmed their available supplies and ability to deliver.

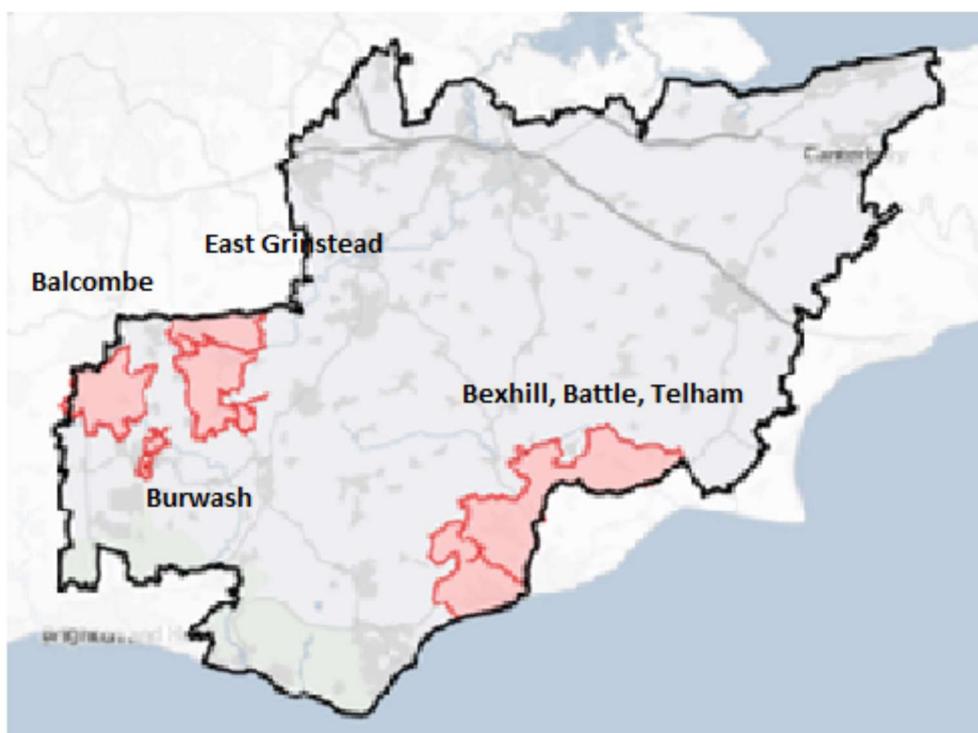
Our largest and most critical Water Treatment Works for Sussex, Barcombe, was impacted despite having dual power supplies from separate parts of the power grid.

69 DMA's were impacted by no water or low pressure that supply 85,000 properties. Of these 39,000 properties were impacted by no water, with a range from one hour to 126 hours.



Four main areas were impacted:

1. Bexhill: Powdermill and Standard Hill zone - 16,000 properties (power faults caused by intermittent high / low voltage), site remained on generator for several weeks due to extensive damage to power network.
2. East Grinstead: Tilkhurst and Wychcross zones – 15,000 properties (initial failure 14 hours) caused by loss of transfer pumping station, generator sourced but a subsequent outage occurred due to 2x outages to dual power fed major WTW at Lewes
3. Barcombe system (Balcombe) – 5,000 properties, short duration outage less than 6 hours (rural area, unable to access sites, required extensive tree clearance to get generators to sites)
4. Barcombe System (Burwash) – 3,000 properties, short duration outages largely transfer / booster pumps



Communications were widely impacted on remote sites as power for remote equipment was lost, making it harder to manage the impact. Adverse weather restricted our ability to send people to sites to manually operate assets where remote connections had been lost. Customer contact was limited in some areas as a result of storm damage.

4. A civil emergency

Widespread site impacts occurred from midday on Friday 18th February. We experienced an extensive loss of communications, SCADA visibility and local boosters, with trees down and roads blocked hampering our efforts to investigate.

Three regional bronze event teams were formed to manage the local response. A Silver team was established, co-ordinating with LRF's, UKPN and to manage alternative supplies. The Silver team co-ordinated with Water UK for mutual aid support.

A Gold team was in place from Saturday 19th February due to uncertainty over the restoration timescales from UKPN, and therefore water restoration timescales. Contact was made at each level in UKPN from Executive to our normal regional level, due to the wide scale disruption and uncertainty from UKPN of any restoration timescales. Some initial customer impact occurred on Saturday but had been reduced to 3 main areas by Sunday

Alternative Water was in place from Saturday 19th with 9 bottled water stations. 2,000 individual vulnerable customer deliveries were made and three Hospital plans implemented. Livestock plans were implemented.

Under SEMD guidance we plan for an incident which could impact 1.5% of our customer base, approximately 35,000 customers. Above this level we need support from other agencies to help support our response.

We have agreed trigger levels for Mutual aid from the wider water industry sector. However, mutual aid support was limited due to the widespread issues with the storms across South East England. We received mutual aid support from two companies that provided tankers in addition to two tankers provided by our contractor Water Direct. One, from Yorkshire was used to support a local hospital, whilst the other one, from SES, was used to support a livestock deployment centre.

We also have trigger levels for both notifying and escalating to Local Resilience Forums (LRFs) in the case of a civil emergency. Because of the extent of the issues in Sussex we escalated this emergency to Sussex LRF. An Emergency Strategic Command Group (SCG) and an Emergency Tactical Coordinating Group (TCG) were established, led by Sussex Police with UKPN and SEW as Tier 2 responders. A regular meeting and update structure was established to help co-ordinate response. Vulnerable Customer cells and Communication cells were set up to share customer data

We fully engaged with response groups and set up two tactical sub group cells for vulnerable customers and communications. We implemented a full data share to prioritise vulnerable customers based both on our PSR and Sussex LRF's register

Hospital response plans were co-ordinated with the LRF group. Three plans triggered and two further plans were put in place in case the situation deteriorated.

Support was provided for water tankers which helped with one hospital and livestock. Sussex 4x4 (a local charity that provides volunteer based emergency response) and Sussex fire and rescue supported

our response on alternative water for livestock and some care homes. UKPN were only able to prioritise response to SEW after storm Franklin had passed.

4. Conclusion

This event clearly meets the definition of a civil emergency as defined in part 1 of the Civil Contingencies Act 2004. For information, we have appended Part 1 of the Act which defines the meaning of an emergency for the purposes of the act. The events described in this paper are clearly an emergency as defined in subsection (1) (a). In order to avoid doubt, subsection 2 (e) specifically states that the meaning of subsection (1) (a) should be interpreted to include: 'disruption of a supply of money, food, water, energy or fuel'

It is clear in the definition of the PR19 interruptions performance commitment guidance that such events would be excluded. The interruptions which occurred as a result of this civil emergency added 57.56 minutes to our reported interruptions to supply performance. We initially intended to exclude these minutes as they seemed to fit the definition for an exclusion. However, following a meeting with Ofwat on 21st June, we were advised that we should include these minutes in our APR and make a separate representation, asking for the exclusion to be applied. This document is that representation, and we are asking for our performance to be adjusted to 14.99 minutes, which is what it would be if these minutes were excluded.

We don't believe that we could have reasonably implemented any plan or configuration of assets which would have prevented our customers from being interrupted as a result of these electrical supply failures, without incurring prohibitive costs (i.e. acquiring a huge fleet of diesel generators which would be used very infrequently).

As stated in the introduction, we have already incurred considerable costs as a result of this incident. We believe that to transfer further risk to a water company by holding us strictly liable for this kind of interruption would not be in the interests of customers or the industry, and would inevitably lead to a higher assessment of the risks which water companies are exposed to, with consequent knock-on effects on the cost and availability of investment capital to the sector.

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