

**MINUTES**  
**PWSCG (53) Meeting**  
**10:00 – 17:00 Tuesday 19<sup>th</sup> October 2021**  
**Hybrid meeting**

**Attendees**

<b>PWSCG Members</b>		<b>BEIS and Met Office</b>	
Duncan Potts (DP)	PWSCG Chair	Sarah Davies (SD)	PWSCG Secretariat (BEIS)
Kim Shillinglaw (KS)	Independent Member	Paul Riches (PR)	PWSCG Secretariat (BEIS)
Tracy Goode (TG)	Welsh Government	Eli Johnson (EJ)	PWSCG Secretariat (BEIS)
Andy Wells (AW)	Civil Aviation Authority	Richard Orrell (RO)	Met Office
Tammy Newey (TN)	Maritime and Coastguard Agency	Alison Wood (AW)	Met Office
Matthew Steele (MS)	MOD	Lisa Martin (LM)	Met Office
Stefan Laeger (SL)	Environment Agency	John Harrison (JH)	Met Office
Seb Lawrence (SeL)	Cabinet Office	Ian Cameron (IC)	Met Office
Ben Brook (BB)	Warwickshire Fire and Rescue Service	Will Lang (WL)	Met Office
Agostinho Sousa (AS)	UK Health Security Agency (UKHSA)	Mike Gray (MG)	Met Office
Ian Collins	Local Government Association (LGA)	Patrick Sachon (PS)	Met Office
		Mark Hunt	Met Office
		Jon Petch	Met Office
		Matthew Lehnart	Met Office
<b>Apologies</b>			
Emer O'Connell (EO)	UK Health Security Agency (UKHSA)	Jim Kerr (JK)	Scottish Government
Des McFarlane (DM)	Department for Infrastructure Northern Ireland	Nathan Travis (NT)	National Fire Chiefs Council
Paul Furlong (PF)	Highways England	James Partington (JP)	BEIS
Peter Davison (PD)	Ministry of Housing, Communities and Local Government	Karen Bradley (KB)	Scottish Government

## Actions

	Owner	Action	Date
1.	PWSCG members	Members of PWSCG to complete the MO Customer Experience Survey.	
2.	Lisa Martin	The Met Office to investigate whether the use of the word 'Extreme' when issuing a heat warning is viewed as appropriate by the public, responders, and the broadcasters. Met Office to report back findings and alternative proposals if a change is recommended.	By 28 Feb ahead of March PAG meeting
3.	BEIS secretariat	BEIS secretariat to circulate the report for MS1.3c ex-committee via email for review in early November 2021.	By 15 <sup>th</sup> November
4.	Tracy Goode	TG to provide WL and AW with additional contacts that should be involved in the work to develop a common warnings framework.	By 15 <sup>th</sup> November
5.	BEIS secretariat	BEIS secretariat to circulate the report for MS1.2c ex-committee via email for review in early November 2021.	By 15 <sup>th</sup> November
6.	BEIS secretariat	BEIS secretariat to use the first quarter of 2022 to carry out a light refresh of the CSA	By 31 <sup>st</sup> March 2022
7.	Met Office	Met Office to pull together the 'ask' in terms of reach and engagement strategy to share with the PWSCG to check it covers what the group want.	By 31 <sup>st</sup> January 2022
8.	Stefan Laeger	Stefan to share the Environment Agency value chain work with Met Office team.	By 15 <sup>th</sup> November
9.	Met Office / BEIS secretariat	Met Office to work with BEIS Secretariat on the detail of the Improver roadmap, incorporating a high/medium/low impact rating.	By 30 <sup>th</sup> November
10.	BEIS secretariat	Circulate ToRs and new member information to Matthew Steele	By 31 <sup>st</sup> October
11.	BEIS Secretariat	Review the feedback given in the 'In Camera' session to consider implementing further refinements to the running and composition of the agenda/papers/presentations	By next PAG/PWSCG

## Decisions

Requirement	Decision
Sign off MS2.1 – launch extreme heat warning	The MS was signed off and approved by all PWSCG members, recognising that the heat warning will evolve and grow and there are issues to consider for the future.
Sign off MS2.1a – notable temperature report	PWSCG members signed off MS2.1a, agreeing to monitor usefulness and purpose as it develops.
Sign off MS – broadcast media customer satisfaction score	Members agree that MS3.6a has been met, and the framework approach is approved for use.

### 1. Welcome Met Office colleagues & Introductions

- Meeting minutes and actions from the April 2021 PWSCG meeting were signed off

### 2. Updates and reports

#### a. BEIS update

- PR provided an update on behalf of JP.
- SR bids have been submitted and BEIS SoS is negotiating with HM Treasury regarding the BEIS settlement; due to COVID-19 a tight settlement is expected. Once the BEIS settlement is confirmed, BEIS will work to confirm individual settlements via a departmental allocation process. The Supercomputer funding is recognised as a priority within BEIS.
- Following the Cabinet reshuffle, Minister Freeman is the new Minister for Science, Research and Innovation. BEIS are looking to organise a visit to the Met Office soon.
- COP26 preparation at BEIS is underway.

#### b. PWSCG Chair's update

- DP welcomed new members to the group.
- DP, KS and BEIS secretariat travelled to the Met Office during summer, with DP recognising the value of in-person meetings.
- DP highlighted the positive launch of the extreme heat warning service and flagged that reach is an area of focus for the group.

#### c. Independent Member's update

- The MARG was held during the summer with a focus on reviewing the first extreme heat warning with broadcasters; broadly the MARG were pleased but also provided constructive feedback on timely communication between the Met Office and broadcasters; also feedback on use of the word 'extreme' as being too much for some audience members which might reflect public adjustment.
- The team have been digging in a bit deeper to work on the authoritative voice theme within the CSA.

#### d. Met Office update

- IC highlighted that the new structure of the CSA is helping the Met Office to progress work and the team are taking this structure through to their new contract with the MOD.
- The scale of work involved in the transition to the new supercomputer was discussed, and the PWSCG were asked to consider this when reviewing the PMs and MSs for future work. There are global supply issues beginning to impact supercomputer delivery. The Met Office will provide regular updates to stakeholders.

- AW added that the Met Office team have been working differently due to the new structure of the CSA and have a new delivery programme co-ordinator to assign responsibility, accountability and oversee programme delivery.
- The Met Office is working on a corporate plan and the PWS team are engaged in this; with PWSCG asking for some insight into this as it progresses.
- A lot of legacy technology is being switched over to modern technology; offering greater resilience particularly during periods of high traffic to Met Office website
- COP26 may pose risks to delivery for some work, particularly for the communications team. Issues will be highlighted if they arise.
- Met Office customer survey has been launched – members were asked to complete this.

**Action:** Members of PWSCG to complete the MO Customer Experience Survey.

### **3. Review of this year's weather & warnings**

- WL presented an update on the weather so far this year; the seasonal averages were not extreme but there were extreme events.
- The first Extreme Heat Warning occurred in July 2021; initial forecast was for a limited event, but this changed during the weekend with the team quickly accelerating work to prepare for a potential extreme heat alert. The event was anomalous in terms of the location of heat, particularly in NI which provided a unique opportunity to test the warning services across these regions. The launch was largely smooth with a noticeable change in tone within the press to reflect the seriousness of the weather and awareness of the warning was high.
- There were episodes of thunderstorms and flooding in London during summer; these were unusually common this summer and future prevalence is predicted to increase. Discussions have been taking place with the London Mayor and London assembly regarding the events. These events also a point of focus with the EA, who are working with the Met Office. It was noted that the public may not be aware of the impacts of rain (e.g. flooding). There is a joint steering board between the EA and Met Office, with reps from NRW and SEPA. IC noted that TfL do not have a contract with the Met Office to provide their weather updates, and the BBC do not have to carry yellow warnings which may hamper the communication within London.
- The events discussed reflect a wider trend towards extremes weather events globally which are predicted to become more common.

### **4. PWS Assurance for Theme 1 (PAG1)**

#### **a. Review of Performance Measures (PMs)**

- EJ gave a summary of Theme 1 PMs noting that all of these were performing at or above target.
- WL provided an update on PM1.1 (Deliver timely, useful, and accurate warnings to the public and responder community), describing how the system works and highlighting good performance in this PM. It was noted that missed events are included in the scoring as a 'poor' score.

#### **b. Review of Milestones (MSs)**

- EJ gave a summary of Theme 1 MSs noting that all of these were performing at or above target, but that a period of prolonged severe weather may result in risks to delivery as the team are required to focus on weather events.
- WL updated the group on MS1.2a (Launch a heat warning service). From Cabinet office perspective, the process worked well and that the preparation exercise really helped. DP added that future exercises for the warnings could include summer thunderstorms. The group discussed concerns for future acceptance of warnings including fatigue and apathy towards public health messaging, noting that public opinion of the warning may be dependent on the location of the warning (e.g. south east may be more reluctant as they are more used to heat). Positive feedback received from UKHSA and pleased to see that messaging aligned with the Heat Health Alerts. The Met Office are undertaking user testing to investigate how the use of the word of 'Extreme' is viewed by the public, responders, the media. This will guide the use of the title. This approach was endorsed by KS.

**Action:** the Met Office team will report the findings of the investigation into the title 'Extreme Heat Warning'

**Decision:** MS1.2a was signed off and approved by all PWSCG members, recognising that the heat warning will evolve and grow and there are issues to consider for the future.

**c. Additional MS progress updates:**

- WL updated the PWSCG on MS1.3c (work with partner organisations to explore common UK warnings framework). the Met Office are collaborating with partner organisations to look into options for improving the nature of warnings. PWSCG asked if warning services for water, such as rip tide warnings, can be included? DP and WL welcomed this idea and noted that following this work there will be an easier means to include new warnings. SeL agreed that this work is important and reflected that this is a shared responsibility, recognising that clarity is key in the roles of different organisations.

**Action:** BEIS secretariat to circulate the report ex-committee via email for review in early November 2021.

**Action:** TG and other Devolved Administration members to contact WL and AW with any contacts that should be involved in this the shared warnings framework.

- **ML** Updated the group on MS1.2c (improve short notice warnings). A beta trial has been ongoing for nowcasting with good performance seen. The Met Office team have been working with international organisation on similar work, but the UK population density and nature of UK events is somewhat unique. There are challenges with communicating short notice warnings too. This project is looking at other customer needs across the Met Office as nowcasting capability is not a requirement unique to PWS, including freezing rain (area of nowcasting interests for MOD). A report will be shared in November, with the Met Office recommending that a review of NSWWS is performed during 2022 to agree remit, accommodate nowcasting capability and consider other hazards. The timelines are tight on delivery of this MS. Met Office have reorganised teams to ensure that resources are flexible enough to cope with upcoming scenarios including both weather related and customer related scenarios.

**Action:** BEIS secretariat to circulate the report ex-committee via email for review in November 2021.

**d. Look Ahead to PMs and MSs for next FY**

- Secretariat to use the first quarter of 2022 to carry out a light refresh of the CSA.
- The group were asked to consider if they are content with the PMs and MSs included in theme 1 for the following year. Members should raise comments if they have suggestions.
- The group discussed adding a PM to monitor action on warning advice in responders and general public.

**Action:** BEIS secretariat to use the first quarter of 2022 to carry out a light refresh of the CSA.

**e. Other Met Office Business**

- WL presented updates on large events support and SitCen support for cabinet office. The group acknowledged the importance of this work, but noted that PWS budget may not be appropriate for all of this work.

**5. PWSCG main meeting**

**a. Review of Theme 2 & 3 Performance Measures**

- EJ gave a summary of Theme 2 & 3 PMs noting that a number of these were amber. The Met Office are working proactively to improve these. EJ recognised the work of the library and archive team during lockdown.
- LM work is ongoing to improve the amber and red PMs. KS sought more detail on the reach and engagement strategy. The Met Office is developing a media and reach strategy embedded within the wider aims of the organisation. It is anticipated that this will contribute to improved performance in this area. Work for a review is being outsourced and budget has been allocated for this. This work will be conducted with oversight from BEIS secretariat and

interaction with the PWSCG to ensure it is meeting the requirements. KS was keen to encourage that in the choice of agency the MO invites challenge to current thinking.

**Action:** Met Office to pull together the 'ask' in terms of reach and engagement to share with the PWSCG to check it covers what the group want.

- MG provided an overview of work PM2.1 (Roadmap for future improvements in forecast accuracy). Actual accuracy is key to the CSA development, and the roadmap will set out science changes that will result in impacts on accuracy. The PWSCG asked MG to clearly communicate how each of the roadmap components will improve accuracy, i.e. impacts rather than science, with an approximation of the scale of these improvements. EA use value chain analysis to demonstrate how the different elements contribute to form a meaningful service, suggesting that this may be appropriate here.

**Action:** SL to share example of value chain work undertaken by EA with Met Office team.

**Action:** Met Office to work with BEIS work with the Secretariat on the detail of the roadmap, incorporating high/medium/low impact rating.

- MG also updated on Improver, which is a new postprocessing scheme better both scientifically and technically. It offers potential for new products and is expected to improve forecasts across a wide range of sites across different elements of the forecast. Changes are not expected to impact on PWS metrics as these are measured from verified sites which already benefit from these improvements. Important to note that because of this, improver may be difficult to verify.

**b. Review of Theme 2 & 3 Milestones (MSs)**

- EJ gave a summary of Theme 2 & 3 MSs noting that a large amount of work is currently ongoing, and all MSs are on track for delivery.
- RO provided an update on MS 2.1a (Produce notable temperature weather reports for PWSCG), seeking sign-off. There has been previous challenge that the Met Office may be less reliable during extreme or unusual temperature (i.e. unusual temp for a type of year), and this MS was designed to investigate performance during extreme temperatures. The Extreme Heat Event during summer 2021 was used as a case study. Significant difference was seen between performance at longer ranges for this event compared to rolling averages, particularly for NI (investigations for this are ongoing). Met Office performed well in relation to other providers. The impacts of this event were also examined via feedback from advisors, and there was a significant increase in new users. Example two page report included in the meeting pack. It would be valuable to see impacts across regions included within this work. There may be a benefit around a shorter report on the accuracy of notable temperature events and an additional review on the impact of these events where appropriate. Scope of this work to be monitored to ensure usefulness and purpose.

**Decision:** PWSCG members signed off MS2.1a, agreeing to monitor usefulness and purpose as it develops.

- LM updated the group on MS3.6a (Develop a broadcast media customer satisfaction score, working with the MARG and other media users), seeking sign-off. A framework approach will be taken to this MS, based on agreement with PWSCG.

**Decision:** Members agree that MS3.6a has been met, the framework approach is approved use.

- PS provided an update on MS3.7 (Create a clear plan for the release of data and a framework for prioritisation of data and data services), including an introduction to demand prioritisation for data services. The members were pleased to see the progress being made in this area. Previously large chunks of data were sent out but now the data will be provided via cloud-based systems and smaller pieces of data. As the Met Office develop this it would be beneficial to clearly communicate the benefits of each component and release. There is a free tier, and charges are applied for some of the data; these charges are constantly under review. The new data release platform is also under review via the CSA and we are meeting targets here whilst within beta phase.

**c. PAG3 summary report & Theme 4 summary report**

- No comments from PWSCG members on these reports.

**d. Supercomputer update**

- MH gave an update on the supercomputer. Work is progressing, but global supply problems with computer chips have resulted in a predicted delay of approximately 3 months to the supercomputer.
- Regular updates are being provided into BEIS and the IPA at HMT.
- Progress has been made with the migration activity and porting activity has commenced. Microsoft has fitted out the data centre
- Met Office has access at the right levels within Microsoft considering the value of the contract as is considered a 'vanguard customer'.
- A joint governance regime is in place between the two organisations
- Overall the programme is currently reporting an 'Amber' RAG. There are supplier delays in acquiring silicon chips but this is a global shortage exacerbated by the pandemic
- DP enquired about continuity of output and how this delay would impact service provision later in 2022. MH confirmed that mitigations had been put in place around the current device. Additionally, the 6x uplift in capacity from the new service isn't required from the start of it coming online to deliver continuity of service so that provides additional leeway. KS enquired about the priority order for this contract with Microsoft and MH confirmed that they are viewed as second only to US Dept of Energy. KS noted that in similar scale infrastructure projects she has been involved with there can be real benefit to bring in external 'red hat' teams and KS was reassured that MO are considering this approach to 'red team'.