

**MINUTES**  
**PWSCG (43) Meeting**  
**10:45 – 15:30** Wednesday 25<sup>th</sup> April 2018  
Church House, Westminster, London

**Attendees**

Wyn Williams (WW)	PWSCG Chair
Sarah Jackson (SJ)	PWSCG Secretariat (BEIS)
Paul Riches (PR)	PWSCG Secretariat (BEIS)
Paul Hadley (PH)	DD BEIS
Paul Furlong (PF)	Highways England
Iain Ritchie (IR)	MOD
Charlie Hall (CHa)	Herts Constabulary
Lindy Woodage (LW)	Devon & Cornwall Police
William Hall (WH)	CCS
Colin Hord (CH)	CAA
Fiona Wilson (FW)	Scottish Government
Carol Holt (CHt)	Environment Agency
Nathan Travis (NT)	Fire and Rescue Service
Jonathan McKee (JM)	Northern Ireland Government
Derrick Ryall (DR)	Met Office
Richard Orrell (RO)	Met Office
Mel Harrowsmith (MH)	Met Office
Lynne Armstrong (LA)	Met Office
Paul Davies (PD)	Met Office

**Actions**

	<b>Owner</b>	<b>Action</b>	<b>Date</b>
<b>1.</b>	Secretariat & Lynne Armstrong	Arrange for the following documents to be published on the Met Office PWS webpages: <ul style="list-style-type: none"> <li>• Minutes of the January PWSCG</li> <li>• Minutes of the March PAG meeting</li> <li>• PWSCG Annual Report</li> <li>• Met Office report to PWSCG</li> <li>• PWSCG Operating plan</li> <li>• PWSCG Consultation plan</li> </ul>	As soon as possible
<b>2.</b>	Lynne Armstrong	Share results of consultations activity with the public such as the Public Perception Survey with William Hall (CCS)	By 5 <sup>th</sup> May
<b>3.</b>	Derrick Ryall	Provide Colin Hord with an answer about the Radar coverage for Shetland	By 12th May
<b>4.</b>	Met Office	Share a copy of the lessons learned report from the IT hall incident with Carol Holt	By mid May
<b>5.</b>	Secretariat	Arrange for the PAG group to be briefed on issues of cyber security and resilience in response to data now being held and accessed from the cloud based applications.	Put in place for next PAG meeting
<b>6.</b>	Secretariat	Conduct desk based research on the potential difference in public perception and response to both male and female named storms in light of recent studies into the matter	Report back at October meeting

	Owner	Action	Date
7.	Sarah Jackson & Mel Harrowsmith	Investigate and come back to the PWSCG with findings on what would be sensible and realistic in terms of agreeing a stretch target for weather warnings providing good and excellent guidance	At the January 2019 PWSCG
8.	Paul Davies	Provide the PWSCG with an update on the ongoing work into developing a 'Nowcasting' forecast and alert	Oct PWSCG
9.	Secretariat	Arrange for the Chairs sign off letter on PWS performance to be sent to Met Office CEO Nick Jobling	Complete

## 1. Welcome & Introductions

WW welcomed attendees. Apologies were received from Denise Harker (Independent Member), Ian Hoults (LGA), Thom Waite (PHE), Tracy Goode (Welsh Government), André Cocuccio (MCA), MHCLG were unavailable to attend. Iain Ritchie deputised for Cdr George Tabear (MOD). William Hall joined as the new representative for the CCS and Fiona Wilson as the new representative of the Scottish Government.

## 2. Minutes & actions from last meeting

PR updated the group on progress since the last meeting. Good progress made on all actions. The Secretariat will follow up on the action previously initiated with Ian Lisk on the issue of a lack of hydrological-meteorological guidance being provided at local resilience fora.

The minutes for the January meeting were approved by the group with no comments or amendments put forward. A copy will be uploaded to the Met Office website.

## 3. Reports

### 3.1 BEIS Update

PH provided the group with an update on the latest news at BEIS. The Department has grown in size which in a large part is due to the challenge of dealing with work associated with the UK's Exit of the EU. Recent developments include the creation of UKRI as a separate entity. PH informed the group that the Met Office, as one of the BEIS Public Sector Research Establishments (PSREs) are eligible to bid for funding from UKRI for research purposes which includes the recent first wave of bids under the Strategic Priorities Fund (SPF). PH reassured the group that the Department recognised recent months had proved challenging for the Met Office in light of the departure of the CEO. A recruitment campaign to find a permanent CEO will be undertaken.

WW enquired on the appointment of a new Chair of the Met Office board which PH was able to confirm was well in hand and was at the stage of final security clearances before any announcement could be made. A question was asked about when the next comprehensive spending review was likely to take place. PH believed this would likely take place over the summer of 2019 in terms of a formal commission but there have been no confirmations to date. In any event, preparations would need to be made to build the evidence base and business case to justify the continued spending on a Public Weather Service.

### **3.2 PWSCG Chair's Update**

WW provided a short verbal update to draw out the highlights from his update paper. WW spoke very positively about the engagement with responders and users of the PWS at the various meetings held in the other jurisdictions of the UK. WW spoke about the transition of the BBC to their new forecast provider in February and touched upon some of the issues that required Met Office to engage with, in particular around NSWWS. The Met Office informed the group that they had been in conversations with the BBC about consistency and attribution of weather warnings. In response to a question from the group, MH confirmed that the BBC is signed up to NSWWS but that there is flexibility for broadcasters to exert some editorial control, in particular for regional broadcasts.

### **3.3 Independent Member's Update**

In DH absence, PR gave a brief summary of the activity the independent member had undertaken since the January meeting. PR spoke about DH active monitoring of the severe weather events from a general public perspective. She had gathered feedback and examples from social media and other broadcasters around the time of the BBC transition and fed back examples to the Met Office for them to investigate. WH was keen to understand more about the views and understanding from a general public perspective and LA agreed to share the outputs of the Met Office work from the ad-hoc public surveys the Met Office carries out following selected amber or red warnings. The meeting of the Media and reach sub-Group (MARG) had been a key deliverable for the independent member and PR would be giving a fuller update later under the MARG item.

## **4 FY17/18 Deliverables and Performance**

### **4.1 Met Office Annual Report**

DR provided the group with a run through of the main challenges and achievements from the last financial year. A summary of the weather experienced during the seasons noted that the summer was relatively wet with notable convective events demonstrating that this was still an area of challenge for the Met Office. In terms of warnings issued, the group were reminded of the unprecedented issuing of two red warnings being in force over different parts of the country at the same time. It was noted that in the red warning area in the South west an 100% awareness score was achieved from those surveyed after the event. Feedback for the two main snow events indicates that Met Office believe these were very well forecast and communicated. DR informed the group of the successful launch of the next generation warnings which was the culmination of a two year project. The major features include the addition of thunderstorm and lightening warnings, warnings extended out to 7 days and clearer language and visual design.

DR informed the group about Met Office performance on Forecast Accuracy against other key competitor Met Services. Met Office has performed very strongly and has scored higher for accuracy against it's like for like comparators such as the French, Japanese, German and Australian Met Services.

Over the year there have been three major model upgrades which has resulted in notable improvements such as an increase in the resolution of the global model from 17km to 10km, the introduction of hourly updated UK forecasts, improved physics and the decoupler technology to save on data processing costs.

The renewal to the radar network was completed which included Met Office designed infrastructure. CH enquired about what radar coverage exists for the Shetland area under the radar renewal programme as it is an important area for aviation. The Met Office agreed to check on the position regarding Shetland and report back to CH, however there would be capital and opex costs associated with any new radar which would need to be prioritised against other aspects of the PWS The radar network in England is co-funded by the EA.

DR spoke about the continued growth in the Direct reach the Met Office have achieved over the last year. Highlights include strong growth with the App with downloads now totalling 5.5m. There has been a further push to grow indirect reach with third parties including the upgrades to the Public Weather Media Service (PWMS) and syndication growth with a significant rise in the number of video plays where Met Office content is shown by third parties.

Progress continues with the delivery of the Transformation and Efficiency (T&E) programme with notable milestones including access to data from the big four atmospheric models being made available via the Service Hub.

The group were informed that the Customer Supplier Agreement (CSA) which sets out the full details of what is provided as part of the public weather service including milestones and metrics was met for FY 2017/18. The main successes included good Met Office performance throughout the two main snow events in February and March 2018, especially with the advance lead time ahead of the events, the effectiveness of the warnings and both the direct and indirect reach achieved. The delivery of the next generation NSWWS was a notable target met that is already receiving positive feedback from users.

IR asked about any differences in the narrative being presented by the BBC with respect to warnings. The Met Office said they will be keeping an eye on how broadcasters are communicating warnings and working with the BBC to make sure they comply with the agreement for NSWWS that they have signed up to.

#### **4.2 Severe weather subjective verification and Warnings task group**

MH provided the group with an overview of the subjective verification assessments that had taken place over the last year and reported that the target of 72% of amber and red warnings to provide good or excellent guidance had been met. The group were reminded about the named storms experienced during the season and a summary of the weather warnings. Examples of the different responses and feedback from various Agencies were highlighted including for the snow in Scotland on 16<sup>th</sup> – 19<sup>th</sup> January and the engagement with the Deputy First Minister. Positive feedback received in relation to the 5 hour lead time of the red warning in Scotland which allowed proactive advice and messaging to be disseminated by various Agencies.

MH summarised some of the key learning points from this winter period which Met Office will be considering. These included how best to convey any ongoing impacts from lying snow after it is no longer falling such as drifting caused by wind. Thought will also be given to the management of warnings that are in force for 3 days ahead and beyond and deciding when is the right time and at what frequency updates to these should occur.

The group then followed this with some of their own experiences of the challenges faced during this period. WH reported that from a CCS perspective they believed that the handling of these winter events was good. They have been carrying out their own

reviews of how the events were managed with local responders such as police. Learning points included having a better understanding of the available 4x4 vehicle resource that can be relied upon during such periods of significant snowfall. Forestry Commission vehicles were used and Fire Services also made offers to use their 4x4 resource.

FS reported that the advance warnings they received ahead of the events that hit Scotland were very useful. It enabled organisations such as the Police and ScotRail to issue 'don't travel warnings' with adequate lead time. There were some problems on the motorways, particularly the M80. There are challenges around HGVs getting jack-knifed causing routes to become impassable which can lead to travellers being stranded overnight. They are keen to work more closely with the police and the haulage industry to see what can be done to try and reduce that risk. WH commented that the military response during these events was very good and having the adequate lead time allowed for contingencies to be put in place and resources to be deployed to where they were needed.

LW informed the group that in their region, the South-west, they were still gathering a number of de-brief reports on the events during this period. Positive feedback reported on the very accurate forecasting as well as the weather warnings issued. Informed the group that the transport network was severely hit in a number of places and will be following up with Highways England on vehicle stranding. Other notable impacts included the disruption caused to supply chains which impacted food availability in some areas that business continuity plans needed to be reviewed.

JM reported that for Northern Ireland, they were happy with the forecasting of the events and the associated warnings which were timely. The Met Office Advisor being embedded with the team was extremely helpful. One additional challenge they are mindful of is the messaging to communities along the border with the Republic as with the two Met Services operating different warnings systems there is an increased risk of confusion for the public.

PF provided an update from a highways perspective. The overall message was that they were happy with the forecasting and that it was helpful to get the 7 days notice on the snow events. This allowed them to adequately brief all their regions. Feedback for the issuing the red warning for England was that it was effective and the area covered was very accurate. One observation was that the issuing of the red warning possibly diminished the effect of having an amber out for the surrounding area in terms of the public's response, suggested that this could be something to take a closer look at. PF referred to the issue of HGVs that had been mentioned earlier and confirmed that this is a known issue that they have been considering how best to tackle. The advance notice did allow them to issue a Highways England alert to the 17,000 members of the Freight Transport Association. The group were informed about the preparation the Agency had taken ahead of the winter season and that they took notice of the Met Office seasonal forecast that indicated a colder second half of the winter. This ensured that they had the required stocks of salt for gritting the network and that a record 335,000 tonnes of salt was used.

The group also briefly discussed storm naming in response to a point raised by CHL and people's response to named storms. CHL referred to some research he had come across recently that indicated that there is a detectable difference in how serious people view storms according to whether they have a male or female name. The inference being that people take greater note and perceive an event will be more serious if the storm has a male name. The Met Office were aware of some previous studies in the area in particular with regards to hurricanes in the US. It was agreed that the Secretariat and Met Office would carry out desk research in this area.

The general view from participants was that the snow events in particular were handled well by the Met Office. Widespread view held that the forecast was very good and with the good lead times for events it enabled organisations to be on the front foot in responding.

### **Task team and NSWWS target**

MH provided the group with a summary of the work of the NSWWS task team that were created to identify and implement ways to improve NSWWS scores. The findings showed that while there were some model/forecast busts they did not significantly skew the statistics. The research did indicate that there was a poor understanding the relationship between weather parameter and impacts. The group discussed the current target and it was agreed that the Secretariat and MH would investigate what is reasonable and realistic to achieve in order to provide more evidence that can be used to set a target. The group agreed it is difficult to pick a figure out of the air and that the target should be tied more closely with the improvements in the pipeline.

## **4.3 Secretariat report on Performance**

### Media and Reach sub-Group (MARG)

PR summarised the discussion of the last MARG meeting which took place in February. The key topics covered included the recent January snow event, subjective verifications, storm naming and the latest developments with the Public Weather Media Service (PWMS). Outputs from the meeting included the Met Office to follow up with Met Eireann on the process and operation of the storm naming initiative to ensure both Met Services are fully sighted in the run up to any event where a storm is likely to be named. The broadcasters were keen to work with the Met Office to develop a 'heads up' notification process to help them in their communications to the public in advance of stormy weather.

### PWS Assurance Group (PAG)

SJ summarised the latest PAG meeting which was held on 15<sup>th</sup> March. The group agreed that two themes in the CSA on National Capability and International Commitments had been delivered over the FY. The group noted the update provided to them on the incident in the IT hall and would like to see the lessons learned report in due course. The group discussed the recent progress on the Met Office T&E programme but remain concerned about the timescale for implementation in particular the people element of the programme.

### PWSCG Annual Report

SJ provided a brief summary of the PWSCG Annual report which contains a high level summary of the key engagements that have taken place over the year.

The group confirmed that they were content with both the PAG report and the PWSCG Annual Report and that these documents could be published online.

## **4.4 Milestone Reports**

WW invited the group to comment on any of the milestone reports that had been circulated which were presented to seek the groups approval and sign off the programme of work that was achieved in FY 2017/18. The end of year sign off process

involves the Chair of the PWSCG issuing a letter to the CEO of the Met Office to confirm whether the PWSCG agree that that Met Office performance in delivering the PWS as set out in the Customer Supplier Agreement has been met. After consideration of the milestone reports the group were content that the performance measures had been met, and in particular for the civil contingency community and that the letter from WW could be issued to Nick Jobling.

## **5 Future Plans**

### **5.1 Update to Customer Supplier Agreement (CSA)**

DR was invited to provide a short overview of the planned updates to the CSA for FY 2018/19. There is no massive overhaul of the CSA for the next FY and the current strategy will be maintained. The focus will continue to be driving improvements in accuracy both perceived and real. Making sure the Met Office retains its authority especially during times of severe weather. There will also be a continued push to transform to both reduce complexity and costs and increase resilience. An updated scope for the PWS has been agreed that will provide more clarity on National Capability Vs PWS services and products.

On warnings, the new system will be monitored closely as it beds in and responding to any user feedback. The Hazard Manager tool for responders will be migrated onto the cloud and there will be work undertaken to better quantify an approach needed to extreme heat and cold. For the public, there will be a new responsive website as well as a focus on communicating weather.

There will be data improvements including making data more accessible and easier to consume with the migration of wholesale and DataPoint onto cloud based services.

The group approved the updated CSA and this will be signed.

### **5.2 Consultation Plan and Secretariat Operating Plan**

SJ provided a brief explanation of the Secretariat operating plan which sets out the main activities and level of service delivered by the PWSCG secretariat to support the Chairman and efficient running of the PWSCG. The group were informed that a review of the CSA would take place as usual and that preparatory work would start so that the PWS was in a good place when a spending review is announced.

The group were also asked their views on the proposed consultation plan of activity that the Secretariat and Met Office PWS team will work to over the year. Specific consultation activity will cover perceptions of accuracy, the 3 month outlook, Nowcasting, Data Services and the improved Chemet service.

The group approved both the Secretariat Operating Plan and the Consultation plan.

## **6.1 Nowcasting plans**

PD presented the Met Office plans to develop future capability for nowcasting. For the UK this will be to improve the capability for predicting convective events in particular which are often smaller and quicker to develop and can be less predictable and more intense. The typical nowcasting timeline focuses on events that are likely to occur in the next 0-6 hours. Plans will also look at surface water flooding including storm intensity and duration which are critical factors. Surface water flooding is something the Environment Agency would welcome developments. PD informed the group that the

Met Office will be looking to engage with Germany on this project as this is something that their Met Service have focussed on over the last ten years and their experience could help benefit the project here in the UK. The German service includes an operation warning system that directly feeds information to emergency services such as the Fire Brigade. NT offered to take part in any pilot scheme for the Fire and Rescue Service. The group enquired about how much expertise is required to operate a nowcasting system, it was acknowledged that there would need to be a fair amount of people resource with the relevant skills and expertise. The work is well underway and the approach is being run on a number of previous high intensity rainfall events to establish how well these events would be picked up. The group were invited to submit examples of previous events that the project team could use as case studies. It was agreed that there should be a further update on this work after the summer trials have taken place and report back at the autumn PWSCG.

## 7. AOB

### Outcome of the Derry Floods

JM provided the group with a readout of the floods that hit Derry in August 2017. The event saw over 400 properties affected with significant damage to parts of the road network in particular. An [independent review](#) was conducted and views were sought from those who had responded to the event in December 2017. A report into the event with a focus on any lessons learned was published in March 2018. The overall findings were that the response was timely and effective. Recommendations that have emerged following the event include two that are directly relevant to the Met Office.

Recommendation 4: **Rainfall Measurement:** Examine the feasibility of increasing coverage of the rain gauge network to help improve rainfall monitoring and flood risk assessment.

Recommendation 5: **Weather Forecasting:** Ongoing education of multi-agency responders, the public and those at risk of flash flooding in relation to the limitations of heavy convective rainfall forecasting to be considered.

JM said that the communications piece under recommendation 5 will be taken forward through the CCS group in Northern Ireland who will bring in a range of other organisations to help disseminate the message.

### Future PWSCG Meeting dates and locations:

- Wednesday 17th October 2018
- Wednesday 30th January 2019
- Wednesday 24th April 2019