From:	██████ (ERG-ALE)
Sent:	04 May 2012 19:11
To:	██████ (ERG-ALE); ██████ (SEG-PRO); ██████ (ERG-ALE)
Cc:	██████ (SEG-PRO); ██████ (ERG-ALE); ██████ (ALE); ██████
	██████ (ERG-ALE)██████ (SEG-COMMS); Williamson, Tim (ERG-ALE)
Subject:	RE: Actions from Meeting on Ozone alerts etc on 20 March 2012

All

Progress has been made on the twitter proposals and we have been successfully pilot tweeting (in private) from @DefraUKAIR for a month now. I can confirm that if press office used "high" as the cut off to tweet they could expect to be getting involved on around 50 days a year, which is too high. Using "very high" limits involvement to around 10-15 days a year which is more appropriate.

I have now worked up the business rules with AEA and summarise these here:
- Forecast tweets issued at 8:55 am each day to tell people about the air quality expected that day
- Nowcast (latest data) tweets issued at 9am only if levels low on weekdays and 10 am only on a weekend.
- Nowcast tweets issued at 9 am, 1 pm and 5 pm on weekdays if levels moderate or higher, and at 10 am and 4 pm on weekends.
- On the first occurrence of a "High" each day, an additional tweet with a link to the health advice on UKAIR will be issued.
- Procedures are in place to prevent tweets going out where only one station in a zone is measuring elevated concentrations. Checks will be made prior to issuing this information. That's not to say its 100% foolproof – if we have multiple station failures in a zone with erroneous data tweets will still go out, but this is not that likely to happen and in any case would only represent what's on the website. It's clear this is an automated feed.
- We are investigating how we can utilise forecasts from the COMEAP "trigger values" to provide additional information, as recommended by the review of the AQ Index. Triggers are not part of this launch as this hasn't been developed yet.

We would like to make the @DefraUKAIR account live at the end of next week, and when we are happy its working properly promote it to interested parties as a service we have launched for the Olympics. We would suggest that we tweet @DefraGovUK if a "Very High" goes out from the forecast or nowcast to alert the press office – but could look to use email if preferred?

Interested in views on the above by COP Thursday 10th. For reference, I have written a summary document of all the data communications systems we have in place, including more detailed logic for twitter and the new information notice as attached - I hope this is helpful.

Regards

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Air Quality Data
Communication...

██████

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Defra Air Quality Data Communications Arrangements

Contents:

1. Routine Internet, Freephone and email data dissemination

1.1 Defra runs a specialist air quality website at http://uk-air.defra.gov.uk/ which provides amongst other things:

- **Nowcasts**: air pollution monitoring data http://uk-air.defra.gov.uk/latest/

  - UK's Automatic Urban and Rural Network data.

  - Nitrogen Dioxide, Sulphur Dioxide, Ozone, Particles (PM_{10} and $PM_{2.5}$)

  - Index band Low/Medium/High and a number between 1 and 10 is assigned to each site and each of the 16 regions based on the worst case of the five pollutants.

- **Forecasts**: air pollution models: http://uk-air.defra.gov.uk/forecasting/

  - Modelled data from the CMAQ model run for 48 hour period.

  - Nitrogen Dioxide, Sulphur Dioxide, Ozone, Particles (PM_{10} and $PM_{2.5}$)

  - Index band Low/Medium/High and a number between 1 and 10 is assigned to each of the 16 regions based on the prediction of the air pollution index for the worst-case of the five pollutants.

- **Data archive** from monitoring and modelling http://uk-air.defra.gov.uk/data/

- Health messages linked to an air quality index http://uk-air.defra.gov.uk/air-pollution/daqi

1.2 **Air Pollution Helpline**: Defra also provides a pre-recorded helpline **0800 55 66 77**. This provides an air pollution nowcast and a forecast for the following 24 hours by region. as well as health messages.

1.3 **Email bulletins** of nowcast and forecast data are available through UK-AIR. http://uk-air.defra.gov.uk/subscribe

1.4 **Trigger Forecasts:** In revising the air quality index in 2011, a new forecast system of "trigger values" in the monitoring data has been proposed by COMEAP which have been shown to reliably determine when air pollution episodes will occur. It is a prediction based on monitoring data within the same 24 hour period. The revised index also suggested a move from a running 24 hour mean to a daily mean, midnight to midnight. These changes have not been implemented on UK-AIR.

Defra recognise the value of these early warnings and are working on a proposal to implement a written messaging system into UK-AIR to incorporate information about the changing air quality situation from these predictive trigger systems. It is not proposed that the current AQ data switches to the midnight to midnight reporting system but remains based on a 24 hour running mean. Reporting of air quality statistics will be revised from 1st Jan 2012 to reflect the midnight to midnight readings. This is a pragmatic interpretation of

the COMEAP recommendations to allow continuous display of data as well as early warnings.

2. Annual Information Notice for Air Pollution Episodes

2.1 Annually in the spring time (from 2012 onwards), an information notice will be published by the press office to raise awareness of spring and summer pollution episodes and Defra's information sources on air quality nowcasts, forecasts and health advice.

3. Air Quality Alerts

3.1 The Air Quality Directive makes specific reference to air quality **alert and information thresholds** for ozone, NO_2 and SO_2. These levels are in occasional years breached for ozone but are not expected to be breached for NO_2 or SO_2. Should any of these thresholds be breached, then an red box alert would show up on the UKAIR homepage, as well as on this webpage http://uk-air.defra.gov.uk/latest/alerts . This fulfils the public information requirements of the Directive.

4. Twitter

4.1 A dedicated twitter account has been established for Defra's air quality information service. This is @DefraUKAIR. The twitter feed will be automated, with some manual checking when levels are high or above. The feed will not be used to enter into conversations. The feed will be live from 10th May 2012.

4.2 The following business rules will apply:

Forecasts:

- Air quality forecasts as seen at http://uk-air.defra.gov.uk/forecasting/

- Tweets will be issued daily at 8.55am and will contain a specific short forecast summary for the current day designed for Twitter.

- The tweet will start with the word "Forecast" so that users know it is a prediction and not based on measurement data.

- The tweet will include a summary of the pollution band and the number of regions it applies to and a link to the website.

- Examples:

  o Forecast: Low air pollution is expected across UK at all locations http://bit.ly/HHMxp6 #ukair

  o Forecast: Moderate air pollution expected at roadside locations in England & Wales. Low levels elsewhere. http://bit.ly/HHMxp6 #ukair

  o Forecast: High air pollution expected at urban & rural background locations in England & Wales due to ozone http://bit.ly/HHMxp6 #ukair

- In the future if triggers are to be included in forecast tweets, these would be automated and presented as a predicted forecast. **Triggers are not part of the initial launch.**

- Proposed example trigger tweet:

  o Warning: Concentrations of Ozone may rise from Low to Moderate. Latest levels at http://bit.ly/H6Gk6g #ukair

Nowcasts:

- This is latest data from the measurement network so is not a prediction.

- The tweet will start with "Nowcast" so that it is clear it is actual data. The term "Nowcast" will be defined together with other information about the tweets on the UK-AIR website.

- When the index is low for all regions, one tweet a day will be issued at 9 am.

- When the index is moderate, high or very high for one or more regions, tweets will be issued at 9 am, 1 pm and 5 pm during weekdays and at 10am and 4pm at weekends and bank holidays.

- Nowcasts will only be issued within these specified times: no later than 5pm on a weekday and no later than 4pm on a weekend/bank holiday.

- When high or very high elevated levels are measured, automatic and manual validation will be used before any information is tweeted.

  o Automatic validation for elevated levels will be used when multiple monitoring sites within the same region have measured elevated levels of the same pollutant

  o Manual validation for elevated levels will be used when only a single monitoring site has measured elevated levels in a specific region or multiple pollutants have been measured at elevated levels. Manual validation will be made by the duty data manager.

- A health advice tweet will be issued with the first "high" tweet in any 24 hour period. This will direct users to the UK-AIR website for further information.

- Examples:

  1. Nowcast Fri 9am: Low air pollution measured across all regions of the UK (AURN) http://bit.ly/HN9VOK #ukair
  2. Nowcast: Wed 5pm: Moderate pollution measured in West Midlands, all other regions Low http://bit.ly/HN9VO #ukair
  3. Nowcast Thu 1pm: Moderate pollution measured in 3 regions across the UK, 13 regions Low. Details at http://bit.ly/HN9VO #ukair

4. Nowcast Fri 5pm: Very High pollution in 1 region across the UK, 15 Moderate. Details at http://bit.ly/HN9VO #ukair
5. Health Advice: Find out the health advice associated with the UK air pollution bands at http://bit.ly/H6Gk6g #ukair

4.3 The press office have access to the Defra twitter feed @DefraGovUK which will have significantly more followers than the more specialist @DefraUKAIR. It is proposed that when levels from the Nowcast reach "very high", the press office retweet or tweet a similar message to alert the wider population to the episode. It is important that health advice is not contained within the tweets - tweets should direct users to the webpage for these messages so that the agreed text is used.

Note: In 2011 this would have seen the press office issuing tweets on 12 days. If the level was set at high and not very high, the press office would have tweeted on 46 days which would be too many.

5. Air Pollution in the UK Report

5.1 Defra produces an annual report on air pollution in the UK which summarises the assessments undertaken, compliance status, evidence base and trends. This report assists Defra in meeting the public information requirements of the Directive and is a valuable source of information. It is published in September each year.

http://uk-air.defra.gov.uk/library/annualreport/index