

4G/TV Co-existence Oversight Board Meeting

Chair's report to Ministers and Ofcom

Meeting date: 23 October 2014

Attendees

David Hendon, Chair

Paul Rosbotham (Vodafone)

Robin Vernon (O2)

Alan Boyle (BBC)

John Ballard (Arqiva)

Khalid Hayat (ITV)

William Webb (Non-Executive)

Roger Darlington (Non-Executive)

Jane Humphreys (DCMS)

Ben Roome (DMSL)

Mark Caines (Ofcom)

Alberto Fernandes (Ofcom)

Andrew Dumbreck (Technical Advisor)

Ian Dewhurst (DCMS)

Sue Ramroop (DCMS)

Michelle Brownrigg (DUK)

Apologies

Peter Couch (Arqiva)

Phil Sheppard (Three)

Inge Hansen (EE)

Kevin Burrows (Channel 4)

1. Executive Summary

- 1.1 There were 3225 confirmed cases of 4G interference at 800MHz as of the end of September, excluding the 35 cases during the pilots. The position remains lower than expected.
- 1.2 All trial KPI targets were met. For KPIA, there was a 100% pass rate of service restoration where a household is a primary DTT user as all 320 confirmed 4G interference cases were resolved within the 10 working day target.
- 1.3 In September, an operator activated a number of masts in the Perthshire area (in connection with the Ryder Cup) without notifying at800 who, therefore, had not been able to conduct their usual mailing operation to raise awareness to households who may have been at risk of interference to their DTT service caused by 4G mobile signals in 800MHz. at800 reacted promptly with an awareness campaign and mitigation assistance to affected households, meeting their KPI requirement to resolve confirmed 4G interference within 10 working days.
- 1.4 The particular operator concerned provided an explanation and apology. at800 has received assurances from all the mobile network operators of their awareness of, and future adherence, to the procedural requirements for mast activation notifications. Ofcom will write to all operators to remind them of these requirements.

- 1.5 The reminder mailing trial to test modified processes to narrow the time between a viewer receiving a postcard and a nearby mast activating will commence in November. The aim of the change to the mailing operation is to primarily reduce the likelihood of unreported interference. at800 will report on progress in early 2015 at which time the Board will consider extending the change to the whole mailing operation subject to the success of the trial and review and recommendations of the Policy sub-group.
- 1.6 Finally, this was Jane Humphrey's last Board meeting. I thanked Jane for her major contribution to the Oversight Board, recognising her valuable contributions to the telecommunications and spectrum policy areas during her long and accomplished civil service career and wished her well in her retirement.

2. at800 update

Roll-out

- 2.1 As of the end of September, there were 3,225 confirmed cases of DTT interference caused by 4G at 800MHz, excluding the 35 cases found within the pilots.

Mast Analysis

- 2.2 The cases of interference reported within 28 days of mast activation for 1.5km has significantly decreased from 0.74 (August) to 0.39 (September) and the cases within 900m from 0.39 to 0.32. There was a marginal increase in the cumulative cases at 1.5km from 0.29 to 0.30 and for 900m, the number remained static at 0.20.
- 2.3 The rolling average of confirmed cases per activated mast across a 3-month period decreased slightly with 1.17 in the three months to September (from 1.19 in August) whilst there was a small increase in the total cumulative number of cases per mast from 0.87 to 0.90.

Installer Scheme and Audit Summary

- 2.4 In September, 836 installer visits took place and diagnosed 320 interference cases. To date, there have been 11,243 installer appointments in total, including repeat visits, of which 989 have been subject to audit.
- 2.5 In September, the percentage of repeat visits declined again to 9% of the total number of visits; the organisation target is 2%. at800 recently appointed a Supply

Operations Manager, within the Viewer Experience Management team, to oversee and strengthen this function as part of their "fix first time" policy.

- 2.6 This includes reviewing the initial installer data before arranging a return visit for households that have been diagnosed as non-4G and have requested at800 re-examine the causes of interference as these may be due to issues such as cabling which are not within the organisation remit to address. at800 are also considering invoking the contractual agreement to re-coup costs from the installers where it is found that the initial visit was not conducted properly.
- 2.7 The implementation of a further level of analysis between the auditor and installer to determine the root cause of differing conclusions regarding initial diagnoses of non-4G is proving to be effective as the number cases overturned by audit continues to be very low. In September, 35 audits took place which examined installer visits completed in July (22), August (11) and September (2) and none were overturned.
- 2.8 The issue of ensuring installers are completing their on-site reports accurately continues, albeit with a small volume of incidents in September where four 4G cases were incorrectly recorded due to form errors. at800 are working on improvements in this area including simplifying the forms to assist the installers and the provision of training and refresher courses to correctly identify a 4G case.

Research update

- 2.9 The final results report of the Data Loggers project has been shared with the Coexistence Technical Working Group (CTWG). The data loggers were installed in a number of households in England to record the DTT and LTE (4G Long-Term Evolution) signal power to enable an evaluation of interference once a mast activated.
- 2.10 As outlined in September's Board Report, issues with the data capture have restricted the usefulness of the evaluation. Therefore, at800 have decided to discontinue the project. However, the four data loggers currently installed and capturing DTT signal information in households within the Channel 60 test area will remain in situ until the mast has been activated. The results from those loggers will be analysed separately.

3. Mast Activations in Scotland

- 3.1 In September, twenty-one 4G masts were activated in the Perthshire area to support the Ryder Cup. Unfortunately, at800 had not been made aware in advance that twenty of those masts were due for activation and, therefore, had not conducted their usual obligatory operation to mail households at risk of 4G interference to their DTT service.
- 3.2 Whilst at800 had been previously informed of one of the 21 masts, which they had been able to mail at-risk households about, they were not aware that it had actually been activated along with the other masts. Consequently, when viewers contacted at800, the team in the Contact Centre were unable to correctly triage callers in any the affected areas and arrange appropriate mitigation assistance.
- 3.3 at800 were alerted to the issue by a caller who had made initial contact directly with the Ryder Cup organisers and Scottish Government press officer further to losing television reception. Upon verifying the information provided, at800 conducted a prompt response. Their actions included mailing the 5,031 households (and 71 commercial premises) predicted as 'at risk' by first-class mail with postcards landing within 7 days of mast activation, contacting all viewers who had previously been in touch to triage them correctly taking into account the new information and arrange appropriate assistance, conducting local media awareness campaigns which included a press release and social media activities, liaising with local voluntary and community sectors to support vulnerable viewers and contacting local aerial installers to both raise awareness and obtain feedback on the levels of interference reported to them locally.
- 3.4 Within 2 weeks of the mast activations, at800 had conducted 118 installer visits, of which 95 (80%) had confirmed and resolved 4G interference; a further 6 installer visits occurred with viewers who had not been mailed, indicating the effectiveness of the local media campaign which involved reaching nearly 30,000 Facebook users and 7,145 Twitter followers. Of these additional visits, 5 cases had television reception issues caused by 4G restored.
- 3.5 at800 is providing compensation to any viewers who spent money resolving reception issues due to 4G interference, prior to being notified of the at800 scheme; to date, there have been 17 claims at an average cost of £108.

- 3.6 Further to investigations by at800 with the relevant mobile network operator, it transpired that the issue was due to a communication breakdown within their own organisation. As precautionary measures to avoid a recurrence in the future, at800 have verified with all the mobile network operators that there are no further 'unknown' masts active and confirmed that there is a thorough understanding of the notification process and timescale requirements within all the organisations to ensure that at800 are able to provide the mitigation assistance scheme as per licence obligations.
- 3.7 I note that despite the operational challenges this issue brought to at800, their response was rapid and thorough. Whilst the situation was unfortunate, with the particular operator providing me with an explanation and apology, it has demonstrated the ability of at800 to deliver a robust, speedy and effective response, testing their operational processes from end to end.
- 3.8 It is commendable that notwithstanding the difficulties, at800 met the overarching target of service restoration within 10 working days with a 100% pass rate for which the Board acknowledges and recognises their achievements, not least as their efforts minimised the risks of potentially irreversible reputational damage to the operators and rollout programme.
- 3.9 The Board noted that Ofcom will write to all the licensees to remind them of their obligations and the importance of adhering to the mast activation notification procedures at800 has in place to enable the provision of the mitigation assistance scheme.

4. KPI Report

- 4.1 at800 reported passes against all KPIs with no exceptions. This included a 100% pass rate for KPIA for service restoration within 10 working days where a household is a primary DTT user; all 320 confirmed 4G interference cases in September where resolved within the target.
- 4.2 There was a failure on SLA B1 which requires identified addresses to be mailed at least once no more than 12 weeks ahead of scheduled mast activation; in September, 1.7% households did not receive the requisite communication before mast go-live. This small percentage of missed households relates to those within the Perthshire mast area (section 3).

- 4.3 As a minor failure on a Service Level Agreement, which is not within the remit of the Oversight Board or licence obligations, there was no further action for the Board to take.

5. Reminder Mailings

- 5.1 In August, at800 presented their proposals to amend the mailing operation and test their modified processes by conducting a trial with reminder mailings. Using the most up to date information provided by the mobile network operators as part of their regular mast plans, at800 expected to narrow the time between a viewer receiving a postcard and a nearby mast activating, thereby reducing the risk that viewers will not retain postcards and therefore be unaware of potential DTT interference issues and whom to contact for assistance.
- 5.2 Reiterating the core principle for initial mailings to arrive at households before a mast activates, the Board had approved the proposal subject to the agreement of the mobile network operators to modify their mast notification procedures, seeking a progress report at the next available meeting.
- 5.3 at800 informed the Board that, further to the provision of the required agreement of the mobile network operators, they had reviewed and tested their internal processes and expected to start the reminder mailing trial in November.
- 5.4 The Board noted that the situation in Perthshire (section 3) has also provided an insight, albeit unplanned, into the advantages of communications nearer mast activations. Whilst the preferred approach is to promote awareness before activations, postcards landing in households where interference was already in evidence or in close proximity to reception issues, led to higher volumes of calls to the at800 contact centre. Consequently, triage processes were more effective and installer visits focused in areas of reported interference, resolving issues promptly.
- 5.5 at800 commented that the reminder mailings trial will not only benefit households but will assist their own operation, particularly as the spread in distribution of mailings from monthly to weekly despatch will enable the Contact Centre to utilise resources effectively and meet SLA targets in responding to callers.

- 5.6 In light of the modifications to the initial awareness mailings in February 2014 to a risk-based approach (currently on trial until the end of the year) and the introduction of the revised reminder mailing processes, I commissioned the Policy sub-group, led by Roger Darlington, to review at800's holistic mailing operation to assure the Board that the changes are both fit for purpose and effective. The timing of the review will be determined by the progress report of the reminder mailings by at800 in early 2015.
- 5.7 The Board will consider extending the weekly postcard distribution to the whole mailing operation subject to the reminder mailing results and the recommendations of the Policy sub-group in February.

6. Coexistence Technical Working Group (CTWG)

- 6.1 The CTWG is an informal working group of the Oversight Board, comprised of representatives, mainly engineers, from at800, broadcasters and the secretariat. The CTWG was set up to work on improving the technical understanding of 800MHz coexistence, including identifying and testing potential changes to the prediction models and to coordinate technical work on coexistence ongoing in the various member organisations.
- 6.2 William Webb presented an update from the CTWG on progress to date and their plans for future work. In June 2014, the Oversight Board approved the switch from the original interference prediction model, Punch, to LS Telcom, based on recommendations from the CTWG who had worked on identifying and correcting differences between the two models. In particular, corrections were made to the model for propagation figures used for distances between 40 and 100m from the base station.
- 6.3 The group have identified further changes and assessed the possible benefits to the accuracy of the current model should those changes be implemented. The areas for consideration include the modelling of household aerials, receiver selectivity and base station power. The next stage is to plan the activities and timescales of each work stream in collaboration with the organisations who will be involved.
- 6.4 The CTWG also provide support and assistance to at800 on aspects of in-home measurements and best practice for diagnosing interference.

- 6.5 The Board recognised the work of the CTWG to date. Further progress reports will be provided in the future.

7. Jane Humphreys

- 7.1 Jane Humphreys will shortly be retiring from her long civil service career. In addition to her other achievements, Jane has made a major contribution to telecommunications and spectrum policy for which she was recognised for when she was awarded an OBE in July this year.
- 7.2 Having worked with Jane for nearly 20 years, I recognise the key role she has played in developing and implementing policy through large-scale programmes including 2G mobile services, the Digital Switch Over and most recently, the clearance of 800MHz spectrum. On behalf of the Board, I thanked Jane for her valuable support to the Oversight Board as the DCMS representative and wish her well in her retirement.

8. AOB & Next Meeting

- 8.1 The next scheduled meeting is on Thursday 20 November 2014. However, I have agreed with the Board that we may cancel this meeting unless there is a need to meet and will take a decision on that closer to the date. The December meeting is set for Tuesday 16 December.

David Hendon

Chair

4G/TV Co-existence Oversight Board