

Timeline of events during Network Radio Dual Path Failure 5th August 2007

Time	Broadcast Duty Manager	Duty Technology Manager	Cable & Wireless
10:30			10:34 NMC saw ACU 2 fail at -----.
10:45			
11:00			11:04 Mitie on call engr tasked to deal. 11:05 ACU 1 went into alarm also.
11:15			
11:30			
11:45			
12:00		12:04 MR report brief hit on Path 2 resulting in a momentary disturbance on the analogue TV networks. A brief time later MR reported several reoccurrences of these short hits.	
		12:08 Leeds reported hits on BBC1 which was in opt out for Rugby League programming.	
		12:10 Logged incident with C&W	
12:15	1222 a producer reported occasional dropouts on Radio 3 in the Oxford area.	CCA reported that Cardiff were seeing hits on NICAM trib path 1.	12:19 SIS/BBC DTM reported ----- (Path 2) between Leeds and Manchester as down. 12:25 Mitie engr arrived at ----- and confirmed ACU 2 was faulty. ACU 1 had a high temp alarm.
12:30	Over the next half hour all networks were reporting audible dropouts all over the country (although generally not from the London and South East area), Manchester CTA reported intermittent loss of both NICAM paths in to them, and NGW reported alarms on both NICAM paths into a significant number of transmitters -----.	12:35 C&W informed of intermittent radio hits on Path 1 and 2. 12:40 Called Birmingham CTA to ascertain whether they were also experiencing hits on path 2 vision and paths 1 & 2 NICAM, they confirmed that they were. 12:42 Requested DOC to monitor return DSAT feed of BBC1 Leeds	
12:45	The scope of the failures did not point clearly to either an LBH source problem or a distribution problem, but as an LBH NICAM changeover is easy to do and causes minimal disruption, this was performed by LCR at 1256; it did not effect a cure, but did at least exonerate the NICAM coders.	C&W reported high temperature alarms at -----. MR and Leeds informed that an engineer was on route.	12:58 NMC saw some signal degrades on an Optera system at -----. When a TN16L mux was investigated at ----- it was seen to be operating at a high temperature.
13:00	The DTM reported that Cable and Wireless engineers had traced the problem to an overheating apparatus room in ----- where they found that the air-conditioning had failed and so an engineer was dispatched there. However it was understood that this should only have affected Path 1 radio (and Path 2 TV) circuits although Manchester and the NGW transmitters were continuing to register failures on both radio paths, (-----).	MR reported that simultaneous hits were being seen both paths on the NICAM tributaries. C&W informed.	13:11 Nortel booked to attend site

13:15			
13:30			
13:45			13:51 Mitie reset both units to clear the ACU fault condition to get the ACUs to cool
14:00			14:04 Both ACU alarms cleared as the temperature had dropped
14:15	By 1415, the programme dropouts were so severe that a decision to go to RBS mode was taken - this would restore all networks to clean mono rather than heavily degraded stereo. Within a few minutes of going to RBS NGW reported failure of Radio 1 from Sutton Coldfield and all points north, and so they sent an engineer to investigate.	14:15 BDMS phoned to report that they had switched to RBS owing to programme disruptions caused by problems on the MBN network. DTM phoned C&W and requested information regarding the path outages - advised by C&W that their node at ----- was suffering from a air con' failure and that an engineer was due on site at 15:00 to instigate a repair. 14:20 received phone call from BBC Distribution requesting information regarding the incident. 14:25 (approx) advised by BDM that Radio 1 had been off air for 10 minutes owing to an RBS issue. It was first thought that the high atmospheric conditions were causing the RBS to fail, but this later turned out to be a separate NGW fault at Sutton Coldfield. 14:28 Chased C&W for SIA.	14:23 Optera signal degrades cleared.
14:30		14:30 Escalated to C&W, explained how severe the impact was on BBC National Radio Services. Received a call from C&W stating that a SIA was being prepared by C&W and possible causes were discussed.	
14:45	NGW engineer found that the RBS changeover system had not operated correctly and he was able to plug around the system at 1450 appx - this restored Radio 1 to RBS (mono) mode	14:50 Radio 1 RBS fault was rectified by NGW.	14:54 SIS/BBC DTM then reported that they were seeing some Radio services down on both paths and gave an example cct to BBC Sutton Coldfield. NMC investigated to find a 2Mb loss of input from the BBC equipment. C&W were contacted who requested BBC reconnect their equipment. (It was later discovered that the BBC had disconnected the equipment as part of their DR switching process).
15:00	Cable & Wireless engineers had fixed the ----- air-conditioning soon after 1500 and the apparatus room temperature started to fall	15:00 (approx) DTM phoned the NGW TOC Duty Manager, who provided an explanation from a NGW perspective of how the incident unfolded from approx 12:30 onwards and its impact on distribution of radio signals to the transmitters and onwards to the listeners with the transitioning from path 1 to path 2 at the following sites: ----- ----- He also explained that ----- had been unaffected as it was not fed via C&W circuits and that ----- was also unaffected as it was fed using non MBN C&W circuits. DTM spoke to the BDM regarding them switching back from RBS to MBN, but the BDM wanted cast iron guarantees that the problems at ----- had been resolved wrt to TV and Radio distribution. 15:04 Received by email the SIA from C&W which showed six input loss alarms at LBH - these were confirmed with the BDM to be the result of them switching to RBS and were therefore quickly discounted, but the SIA also provided the first clear evidence of a dual path outage.	

15:15		DTM spoke to C&W, requesting guarantees that the faults had cleared and that the MBN was stable before the BBC would switch back to using the MBN.	
15:30		DTM phoned C&W desk engineer, who advised that there was still an STM-1 card which was unstable at ----- and that no guarantee could be provided at this stage. DTM asked whether C&W had ordered a part for this failure and was advised that it was likely to be a cabling error. DTM suggested that a card was ordered just in case, but the engineer was just about to arrive on site and so it was left for him to check the cabling first.	15:43 Nortel engr arrived at site and removed the heat sink from the TN16L mux and removed the cover to assist in cooling.
15:45		15:45 (approx) DTM escalated the problems to Senior Service Manager, leaving a voice mail to call the office.	15:49 TN16L temp seen to drop.
16:00		16:11 DTM sent SMS to SSM alerting to the problems.	16:14 Mitie engr advised that the ACUs had struggled to cope with the heat today
16:15	It was not possible to verify that the equipment there would carry our programmes without actually restoring the NICAM distribution (and leaving RBS mode); this was done at 1615, initially on Path 1 only. This restored the whole country back to normal stereo and NGW and Manchester were able to verify that Path 1 had returned as anticipated. Path 2 was restored at 1625 which put the whole country back to normal.	16:23 Given all clear from C&W for the BBC to switch back off RBS. C&W reported both paths fixed, but were vague regarding the path 1 failure and restoration. 16:25-16:33 DTM discussed incident with SSM.	16:27 SIS/BBC DTM advised they are seeing path 2 as alarm free and they will progress switch back of traffic over to C&W
16:30		16:35 DTM phoned BDM suggesting that he could switch back from RBS, but was told that this had already occurred at 16:15-16:25. No further problems reported.	

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