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**Digital Switchover (DSO) Programme**

**Radio DSO Block 11C Aberdeen**

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**Document Reference:** Radio DSO Aberdeen–1.0

**Release Date:** 21 February 2011

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## Document Details

General Detail				
Abstract	Radio DSO plan and details of the Aberdeen local multiplex on block 11C			
Author	Mary Smith			
Verifier	Brian Tait			
Owner	Glenn Doel			
Optional Information				
Author Defined Reference No	Not used	Project No	951225	
Cross Reference	This is the first text box in the template into which you should be entering text directly. All the above text boxes on this page and the title page, and the headers and footers, should be populated via the Document Details userform.			

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## 1 Aberdeen DSO narrative

The current allocation on 11C for Aberdeen has been retained. There is also no proposed change to the editorial area.

There is no overlap between the Aberdeen multiplex and the adjacent local multiplexes for Inverness and Perth/Dundee. The Aberdeen multiplex and the nearest co-block multiplexes are for Glasgow and Tyne/Wear and are shown below in Figure 1.1.

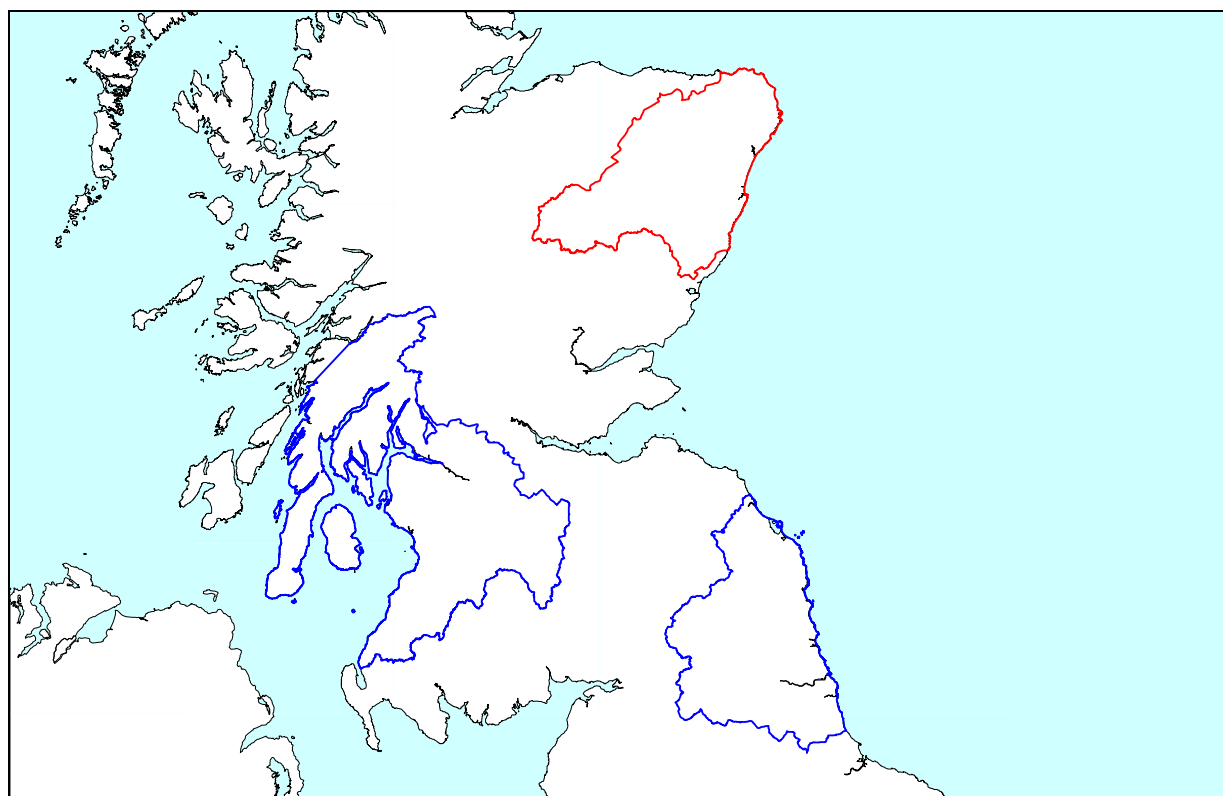


Figure 1.1: Proposed 11C Block Allocation

Site name	ERP	Site height m a.o.d.	Antenna height m a.g.l.	Antenna type
Meldrum	8.51 kW	244	142.7	8 tiers of dipoles on a pole
Mormond Hill	1kW	219	37.5	4 tiers of dipoles on a pole
Durris	2 kW	235	237	4 tiers of dipoles in shared FM/DAB antenna

Table 1.1: Current Transmission Characteristics

Case 1 - All the 'current transmitters' are on air, coverage shown in Fig 2.1. The current allocated transmissions characteristics are shown in Table 1.1

Case 2 - It is not proposed to change any of the existing current transmission characteristics, therefore there is no Modified Network 1.

Case 3 – Modified Network 3 includes another 4 transmitters (total seven transmitters). Endeavouring to provide DAB coverage where VHF coverage is available, Redmoss, Balgownie, Hill of Foudland and Tullich have been used. The most significant contributions to increased population are from the additions of the Balgownie and Redmoss transmitters. It goes some way to improving the mobile coverage on the roads and predicted 1% time interference limited coverage is shown in Fig 2.2.

Case 4 - Modified Network 4 includes a further 4 transmitters (total 11 transmitters). Attempts to improve the mobile coverage have necessitated the use of sites at Braemar. The Cairnwell (ski resort), Balintuim and a green field site Ballochbuie Forest that provides some coverage on the A93 trunk road that is one of the major approaches to Aberdeen from the south. These transmitters will not provide significant improvement in the population coverage. The nature of the terrain around Aberdeen is particularly mountainous and there are few transmitters that can serve significant stretches of major trunk roads. There are still predicted to be some gaps in the mobile coverage along this route. Most noticeable in that environs of Balmoral. The predicted 1% time interference limited coverage is shown in Fig 2.3.

## **1.1 Outgoing interference and sensitivity to other co-block multiplexes**

The expanded Glasgow and Tyne & Wear multiplexes are largely unaffected by additions proposed to expand the Aberdeen multiplex. In addition, the proposed increases in Aberdeen coverage is not significantly impacted by these co-block transmissions.

## 2 Coverage of Multiplex

### 2.1 Coverage Maps

Coverage maps for DAB are presented with three colours.

Blue = Mobile coverage (99% locations at 99% time)

Dark Green = Indoor coverage (80-95% locations at 99% time)

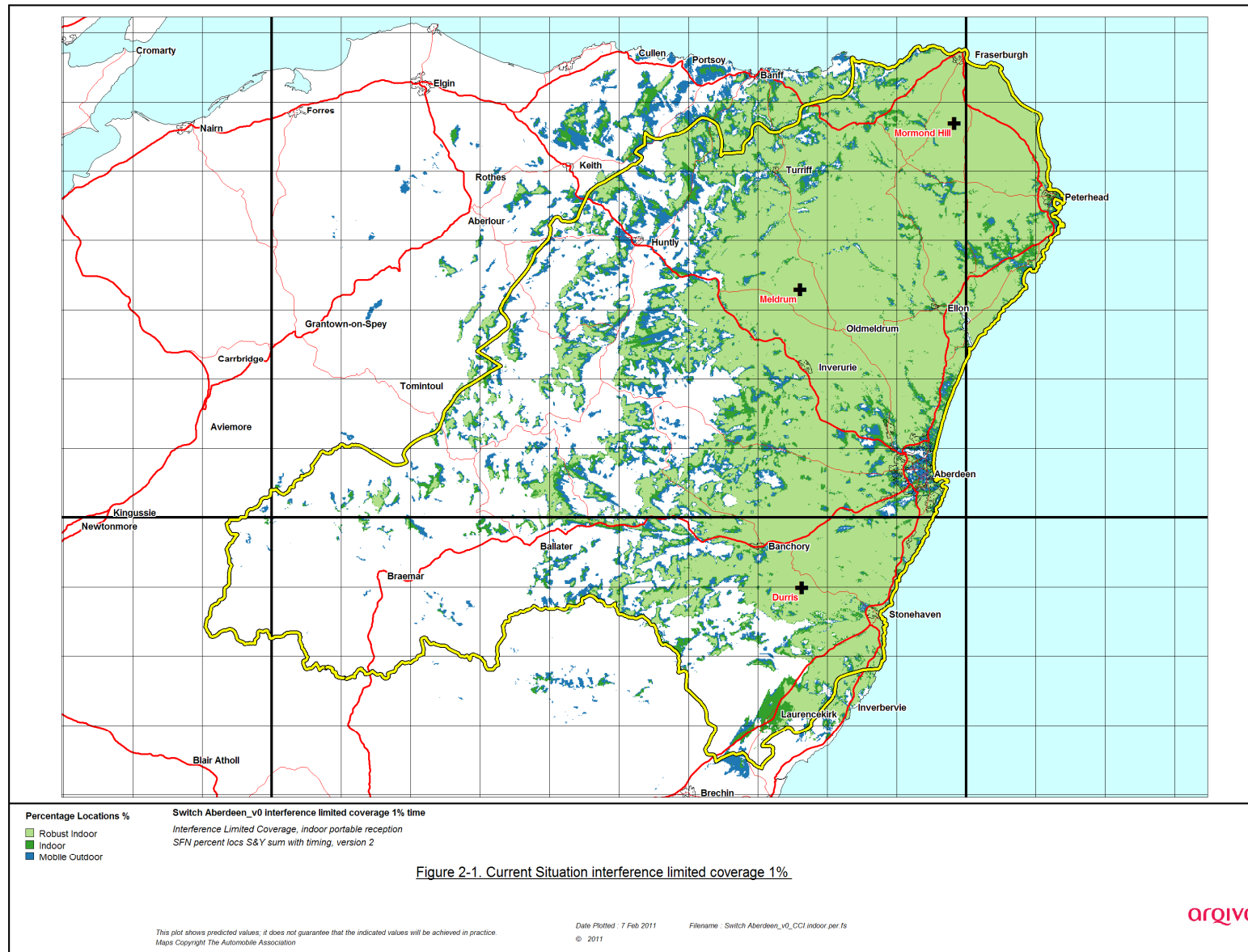
Light Green = Robust Indoor coverage (>95% locations at 99% time)

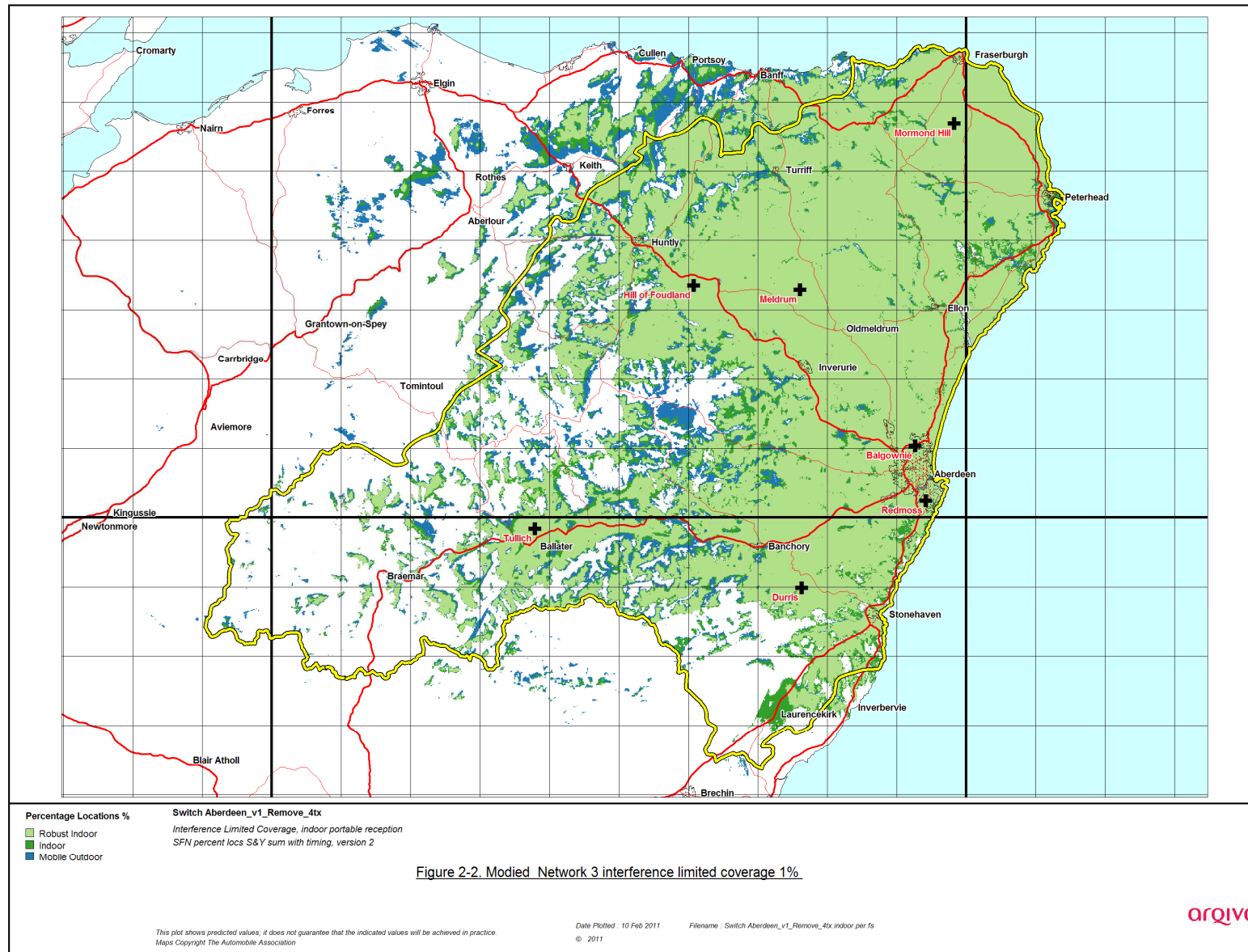
These maps included with this report

Figure 2.1                      Current interference limited coverage for Aberdeen on block 11C

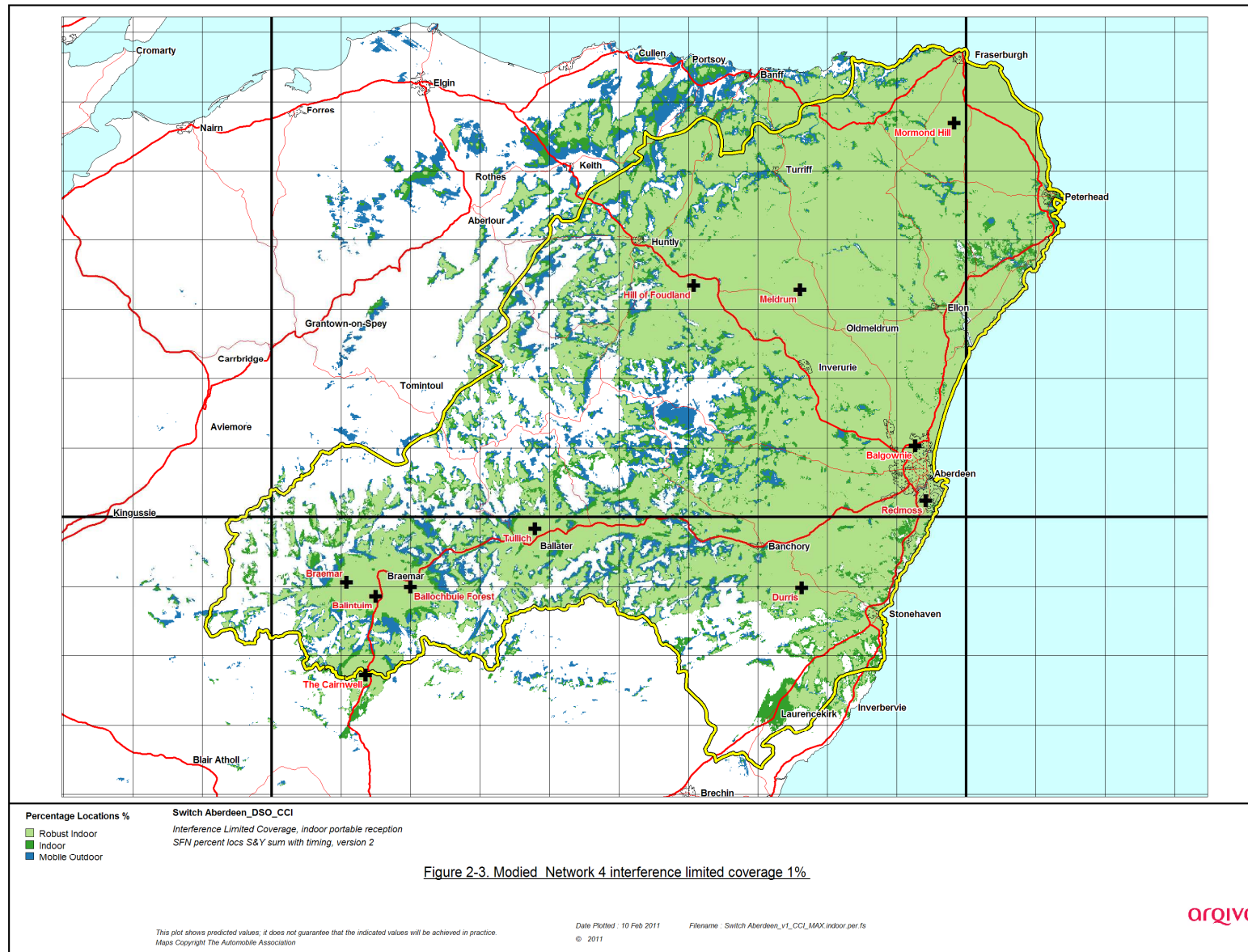
Figure 2.2                      Case 3, Modified network (7 sites)

Figure 2.2                      Case 4, Modified network (11 sites)









## 2.2 Population Coverage Tables

Table 2-1. Population coverage proportional indoor 99%T: Total 206,651

Site scenario and incremental additional sites	Site Type	Individual Gross Interference Limited coverage within Editorial Area	Number of households within Editorial Area	Increase in number of households	Incremental percentage increase of population	Percentage of Editorial Area
Current (3 Tx)			141055	-	-	68.3
Redmoss	New site	88,602 (42.88%)	182,761	50,858	23.74	88.44
Balgownie	Shared Existing Infrastructure	66,788 (32.32%)	186,111	3,355	1.62	90.06
Hill of Foudland	New Site	10,392 (5.03%)	190,488	4,352	2.11	92.17
Tullich	New Site	3,977 (1.42%)	192,681	2,213	1.07	93.24
Braemar	New Site	371 (0.18%)	193,071	390	0.19	93.43
Ballochbuie Forest	New Site	29 (0.01%)	192,087	16	0.01	95.44
Balintuim	New Site	329 (0.16%)	193'098	11	0.00	93.44
The Cairnwell	New Site	2 (0.00%)	193,136	138	0.02	93.46

- Case 1 - Light Yellow = existing sites unchanged
- Case 2 - n/a Modified Network 1
- Case 3 - Light yellow + orange = modified network 2
- Case 3 - Light yellow +orange + green = modified network 3

Table 2-2. Road coverage 99% locations, 99%T: Total 884.8 km

Site scenario and incremental additional sites	Site Type	Total road length in km	Increase in number of road length in km	Incremental percentage increase of road length	Percentage of roads within the editorial area
Current (3 Tx)	Existing sites	621.0			70.2
Redmoss	New site	596.5	37.24	4.21	67.42
Balgownie	Shared Existing Infrastructure	598.4	2.92	0.21	67.63
Hill of Foudland	New Site	654.9	46.34	6.37	74.0
Tullich	New Site	689.52	34.73	3.93	77.93
Braemar	New Site	704.3	14.87	1.68	79.61
Ballochbuie Forest	New Site	707.6	3.29	0.37	79.98
Balintuim	New Site	714.4	6.75	0.76	80.74
The Cairnwell	New Site	720.3	5.90	0.67	81.41

- Case 1 - Light Yellow = existing sites unchanged
- Case 2 - n/a Modified Network 1
- Case 3 - Light yellow + orange = modified network 2
- Case 3 - Light yellow +orange + green = modified network 3

Table 2-3. Summary of Coverage within Editorial Area for Each Case

Case	Indoor Household (& percentage coverage)	Mobile Road Coverage (& percentage coverage) 99% locations
1	141,055 (68.3)	621.0(70.2)
2	n/a	n/a
3	192,681 (93.24)	689.52 (77.93)
4	193,136 (93.46)	720.3 (81.4)

- Case 1 - Light Yellow = existing sites unchanged
- Case 2 - n/a Modified Network 1
- Case 3 - Light yellow + orange = modified network 2
- Case 3 - Light yellow +orange + green = modified network 3