



**MuxCo Cumbria Limited**

**An application to Ofcom for a  
Morecambe Bay local DAB digital radio multiplex**

**Part A – Public Section**

**September 2019**

## Executive summary

Please provide a summary of your application, of no more than four pages in length.

### MuxCo Cumbria

1. MuxCo Cumbria Ltd ('MuxCo') was created to establish local DAB digital radio in Morecambe Bay and South Cumbria (hereafter referred to as 'Morecambe Bay').
2. MuxCo Cumbria has two shareholders who have significant analogue and digital radio experience, through multiplex ownership and broadcasting - **MuxCo** Ltd and **Nation Broadcasting** Ltd.
3. MuxCo has been reviewing options to bring local DAB to Cumbria for several years. The acquisitions by Global Radio of Lakeland Radio and Bay Radio in 2018 created a catalyst for a viable multiplex to launch, with two radio groups providing the leading local commercial services across Cumbria.
4. The recent decision by Ofcom to split the county into several multiplex blocks, as well as identify opportunities for up to five small scale multiplexes to be licensed to serve the county, increases the complexities of planning local DAB for the county, as well as impacting the underlying business model.
5. However, we are pleased to submit a proposal to bring local DAB to Morecambe Bay within 12 months of award with 9 services, which includes a mix of established local and national services, as well as new local services to DAB:



6. Capacity has been allocated to accommodate existing local analogue services from launch - **BBC Radio Cumbria**, **Heart** and **Smooth**. These services collectively account for 15.2% of total radio listening in Morecambe Bay.

7. Capacity has also been allocated to bring a range of new digital services that will broaden choice and expand the number of providers in the market. Individually and collectively, they cater for a wide range of tastes and interests. 6 new services are confirmed:
  - 3 local services – **Bay Radio, CandoFM and Bay Trust Radio**
  - 3 brand services – **Fun Kids Junior, Chris Country Radio and Capital**
8. We currently have 40% of capacity available. We have some prospective service providers interested in capacity (see Part B) and will continue to market the multiplex and contract with more services – large and small, commercial and community, creating further choice for listeners and opportunities for new services.
9. MuxCo's relationships and its proven success of delivering for service providers, stands it in good stead for the evolution of the multiplex and the services that it carries over the licence term.

### **Meeting the Award Criteria**

#### ***Our proposed coverage and timetable to launch***

10. Our transmission proposal, which takes into account coverage of existing local services BBC Cumbria, Heart and Smooth, as well as existing local and national multiplexes, has been designed to provide optimum population coverage from launch.
11. Using four transmitters initially, our transmission proposal will deliver 'outdoor coverage' (e.g. to in-car and mobile receivers) to 55% of roads and indoor coverage (e.g. to kitchen radios) to 78% of adults 15+.

#### ***Our ability to establish and maintain the service***

12. The shareholders behind MuxCo have considerable digital radio experience. They are committed to radio's digital futures and are well-resourced companies that can support the multiplex throughout the licence term.
13. The MuxCo management team, led by Gregory Watson and Matt Deegan, has considerable experience as a multiplex operator, having established the Now Digital and MuxCo networks, and currently managing the MuxCo network as well as multiplexes owned by Nation Broadcasting, Wireless Group and Bauer Media.
14. Our ethos is that digital radio should be available in a cost and operationally efficient manner to enable as many organisations as possible to broadcast. We will offer both DAB and DAB+ to help make DAB economical to service providers and encourage more stations to join the platform and provide a compelling proposition for digital radio listeners.

### ***Catering for local tastes and interests and broadening choice***

15. In preparing our application, we have undertaken desk research, including population profiling and analysis of existing radio listening habits.
16. Taken as a whole, our proposed services will ensure heritage services have a digital future, with new services broadening choice and catering for a wide range of local tastes and interests. We believe that our proposals will provide further incentives for consumers to buy a DAB digital radio and help commercial radio grow.

### ***Demonstrating local demand and support***

17. RAJAR provides strong evidence of demand and interest in the simulcast services and proposed new services for the area.

### ***Being fair and effective***

18. We have established fair and transparent policies for negotiations with potential service providers, and have engaged in an open and non-exclusive manner.

### **Summary**

- MuxCo is committed to Morecambe Bay.
- We will deliver robust local coverage that will serve 78% of adults from launch, and a range of simulcast and new services that will broaden choice and cater for a wide range of tastes and interests, and also will help commercial radio improve its market share.
- MuxCo is well resourced, in terms of both management and finance, and will be led by a management team with an unparalleled track record in applying for and successfully operating local multiplexes.
- MuxCo will deliver a cost-effective local DAB solution, collectively benefiting all service providers and ensuring a long-term commitment to DAB digital radio.



## General information

### 1. Name of Applicant, Address, Telephone No. and E-Mail Address

This must be a single legal entity: either a body corporate or a named individual person. If the former, a copy of the Certificate of Incorporation must be included with the application.

MuxCo Cumbria Ltd  
Company number 11923286

### 2. Main Contact (For Public Purposes)

Please nominate at least one individual to deal with any press or public enquiries, stating:

Name: Gregory Watson  
Telephone (daytime): 020 7739 7880  
Address: Greenworks, Dog and Duck Yard, Princeton Street, London  
WC1R 4BH  
E-mail address: gregory@muxco.com

### 3. Main Contact (For Ofcom Purposes)

Please nominate one individual to whom questions of clarification and/or amplification should be sent, stating:

Name: Gregory Watson  
Telephone (daytime): 020 7739 7880  
Address: Greenworks, Dog and Duck Yard, Princeton Street, London  
WC1R 4BH  
E-mail address: gregory@muxco.com

## **Section 51(2)(a) and (b): Extent of proposed coverage area and timetable for coverage roll-out**

### **4. Summary of coverage proposals**

Provide a summary, fully consistent with the more detailed information about transmission sites supplied separately (see Q.6 below), of the coverage areas proposed to be achieved by the applicant's technical plan, and an estimate of the percentage of households, major roads and/or the adult (aged 15+) population which will be served by this local radio multiplex service for both indoor and outdoor coverage.

19. Our transmission proposal has been designed to provide optimum population coverage from launch.
20. We have worked with Arqiva to create a transmission plan that reflects coverage of existing analogue services, and takes into account urban areas and the road network. Our proposal is to contract with Arqiva if we are awarded the multiplex licence.
21. We will launch with four transmitters delivering 'outdoor coverage' (e.g. to in-car and mobile receivers) to 55% of roads and indoor coverage (e.g. to kitchen radios) to 127,663 households (representing 295,000 adults 15+ - 78% of adult population):

#### **Lancaster**

A medium power transmitter using the existing national DAB antenna providing:

- Robust indoor coverage of Lancaster, Heysham, Carnforth and surrounding area
- Outdoor mobile coverage to Lancaster, Heysham and the M6 between Lancaster and Carnforth.

#### **Morecambe Bay**

A medium power transmitter using the existing national DAB antenna providing:

- Robust indoor coverage of Ulverston, Dalton in Furness and the Morecambe Bay area
- Outdoor mobile coverage the Morecambe Bay area including the A590 between Ulverston and Barrow and A595 between Millom/Broughton in Furness and Barrow

#### **Windermere**

A medium power transmitter using the existing national DAB antenna providing:

- Robust indoor coverage of Windermere, Bowness and Ambleside.
- Outdoor mobile coverage of the A591 between Ambleside and Windermere and on towards Kendal

## Kendal

A medium power transmitter using the existing national antenna providing:

- Robust indoor coverage of Kendal and the surrounding area
- Outdoor mobile coverage of Kendal and the surrounding area, linking with the Windermere and Lancaster and also extending coverage north on the M6

22. In planning the network, Arqiva has assumed the following service levels as defined in the Ofcom advertisement:

- 54dBuV/m at 10m agl for outdoor mobile road coverage
- 63dBuV/m at 10m agl for useful indoor coverage in a suburban environment

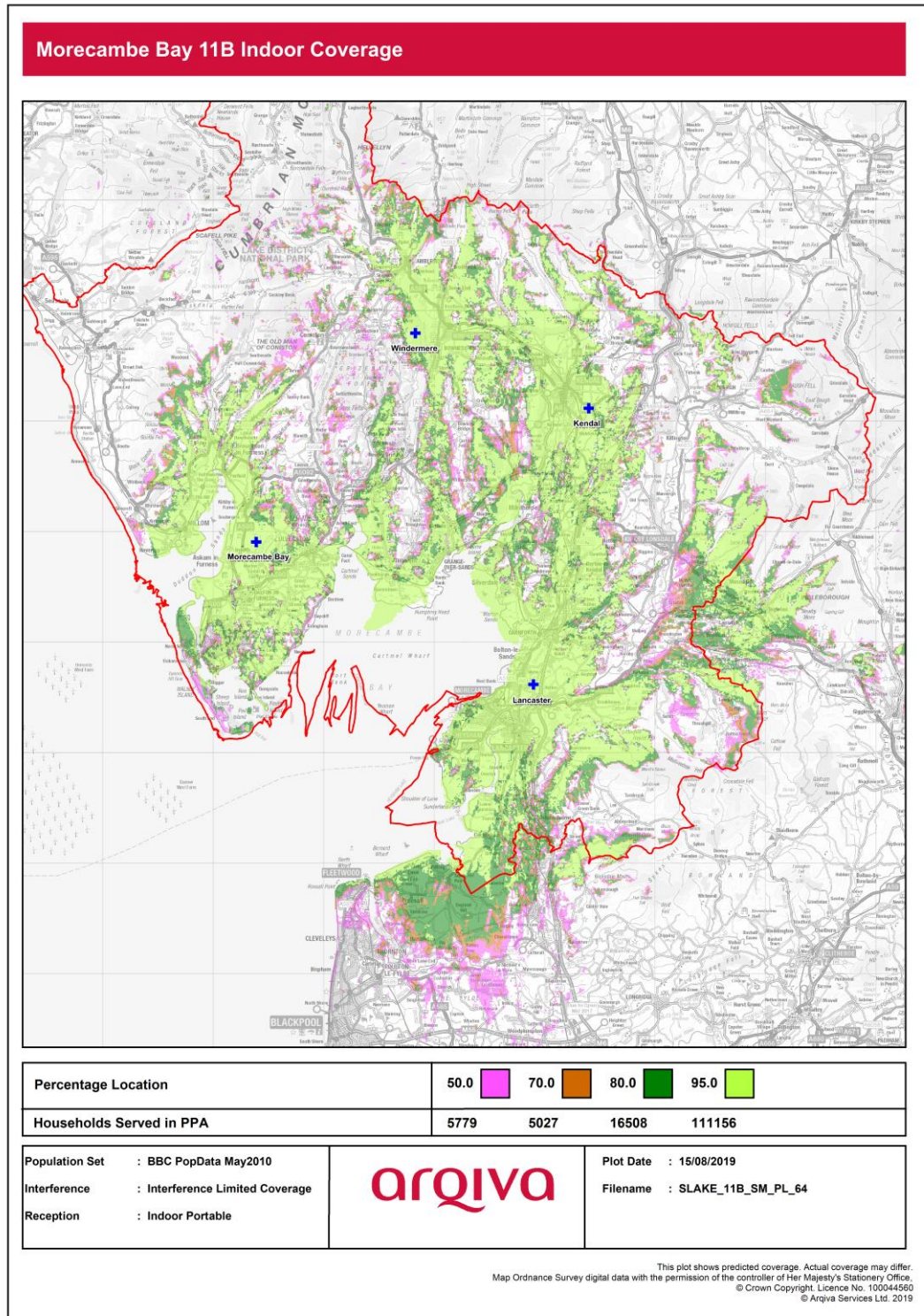
23. Arqiva calculates a potential 164,099 households within the Morecambe Bay area (using a contour supplied by Ofcom). This would equate to a potential adult 15+ population of 375,000. Our percentage coverages are based on the Arqiva UKPM coverage model.

24.

Launch transmitters	Outdoor Coverage (54 dB)		Indoor Coverage (63 dB)	
	Roads (km)	% Covered	Adults (Households)	% Covered
Normal Propagation (50%T int)	379	61%	135,544	82.6%
Interference Limited (1%T int)	339	55%	127,663	77.8%

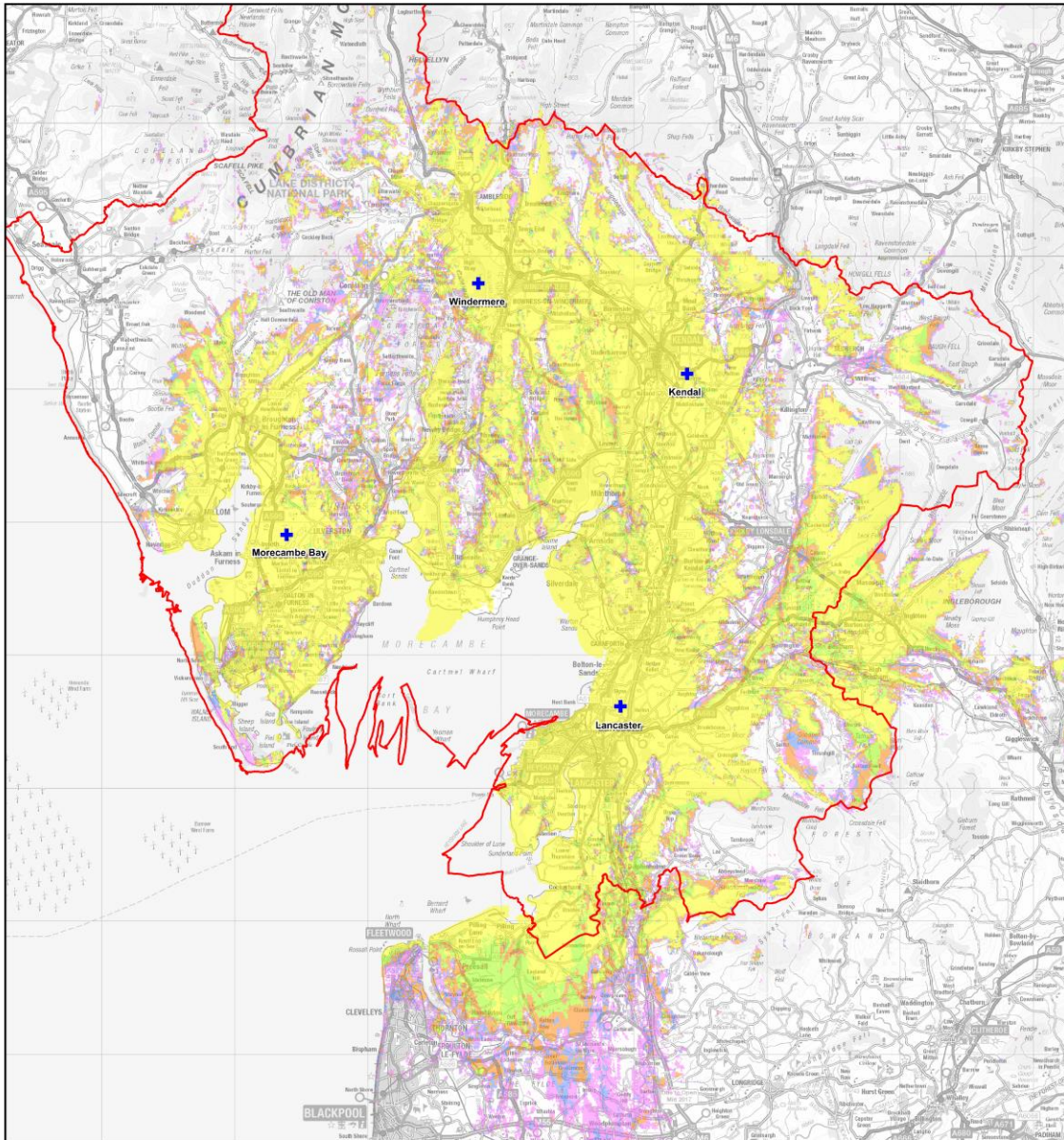
25. The following maps indicates proposed launch coverage.







### Interference limited indoor



## Interference limited outdoor

### Morecambe Bay 11B Mobile Coverage



Percentage Location	50.0		70.0		80.0		95.0		99.0	
Roads Covered in PPA (km)	17.894		11.875		33.486		28.56		339.632	
Population Set : MTARoads						Plot Date : 15/08/2019				
Interference : Interference Limited Coverage						Filename : SLAKE_11B_SM_PL_62				
Reception : Outdoor Mobile										

This plot shows predicted coverage. Actual coverage may differ.  
Map Ordnance Survey digital data with the permission of the controller of Her Majesty's Stationery Office,  
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## Standalone Coverage

26. The following table summarises coverage (Interference Limited) of each individual site demonstrating the overlap between transmitters which will ensure a reliable signal to a significant proportion of the licensed area, even should one transmitter be on reduced power or have failed.

Transmitters	Outdoor Coverage (54 dB)		Indoor Coverage (63 dB)	
	Roads (km)	% Covered	Households	% Covered
Lancaster	120	19%	63,512	38.7%
Morecambe Bay	119	19%	49,556	30.2%
Windermere	63	10%	19,322	11.8%
Kendal	42	7%	7,222	4.4%

\*assumes interference from N&W Cumbria based on an example network

## Cumulative Coverage

27. The following table shows how coverage (Interference Limited) is built up through the use of the network of transmitters.

Transmitters	Outdoor Coverage (54 dB)		Indoor Coverage (63 dB)	
	Roads (km)	% Covered	Households	% Covered
Lancaster	120	19%	63,512	38.7%
Morecambe Bay	242	39%	100,817	61.4%
Windermere	298	48%	120,115	73.2%
Kendal	339	55%	127,663	77.8%

\*assumes interference from N&W Cumbria based on an example network

## Network Resilience

28. The following table shows the impact (Interference Limited) from the loss of one transmitter at a time, demonstrating its contribution to the overall network.

	Outdoor Coverage (54 dB)		Indoor Coverage (63 dB)	
	Roads (km)	%	(Households)	% Covered
Network less Lancaster	231	37%	77,377	47.2%
Network less Morecambe Bay	236	38%	91,479	55.8%
Network less Windermere	284	46%	108,514	66.1%
Network less Kendal	298	48%	120,115	73.2%

\*assumes interference from N&W Cumbria based on an example network

## **5. Timetable for coverage roll-out**

Outline the timetable in accordance with which the coverage proposed at Q.4 would be achieved, and the technical means by which it would be achieved. This should also be fully consistent with the more detailed information provided in response to Q.6.

29. Our proposal is to launch the multiplex within 12 months of award.

## **Antenna Systems and Combiner**

30. Arqiva will be the owner of all the required antenna systems. Discussions on the systems have taken place with Arqiva and we are advised that no obstacles are expected to meet the timetable for launch.

## **Transmitter systems**

31. Arqiva propose to use transmitters from a major European supplier, Tryo Communication Systems, S.A. with whom Arqiva have a Frame Agreement. Tryo have confirmed their ability to provide the necessary transmitter systems and services within the required timescales.

## **Distribution**

32. The distribution between the multiplex centre and the transmitters will be distributed on Arqiva network circuits, SHF links and leased fibre circuits between transmitters. Arqiva confirms that it is able to install the new infrastructure within the timescale of the transmission roll-out.

## **Accommodation and Power Requirements**

33. Arqiva have confirmed that it can provide suitable accommodation and power supply.

## **6. Detailed coverage proposals**

Provide, in an electronic text file, details of the technical plan, which should consist of the following components: assignment details, implementation table, and implementation data.

- a) The first part of the technical plan is a table of assignment details. This gives the relevant technical detail of each transmitting station which the applicant is undertaking to provide as part of its network. It will be used to enable Ofcom to estimate the coverage which will be achieved by the applicant, on a basis consistent with other applicants. It will also enable confirmation of the plan's compliance with Ofcom's various technical requirements. All files must be supplied in text format which is in accordance with the ITU format defined for digital sound broadcasting assignments, details of which can be found at: [https://www.itu.int/en/ITU-R/terrestrial/tpr/Documents/GE06\\_BS/BS-GE06\\_Guide.pdf](https://www.itu.int/en/ITU-R/terrestrial/tpr/Documents/GE06_BS/BS-GE06_Guide.pdf)
34. The assignment details accompanying this application are provided under separate cover as electronic files.

- b) A separate table, the implementation table, should also be provided for the technical plan. This should list, for each proposed transmitter, the date of implementation promised with the parameters promised in the transmission plan, the owner/lessor of aperture space on the mast/tower, and any relevant accompanying notes. If it is proposed to introduce a transmitter with different parameters (typically lesser power or height) for an interim period, then on both lists there should be one entry for the initial assignment, and a second entry for the one which replaces it, with a note stating which transmission assignment is replaced.

35. The following table details all of the information requested in question 6b

Site Name	NGR	Site Owner	Antenna Height m agl	Antenna Proposed	New or Existing Antenna	ERP kW	Implementation Date
Lancaster	SD490 662	Arqiva	85	Share into existing National antenna – 2 tiers of 3 DAB Panels	Existing	1.0	Within 12 months of award
Morecambe Bay	SD239 791	Arqiva	81	Share into existing National antenna – 4 Tiers of a single DAB dipole on a pole	Existing	1.0	Within 12 months of award
Widermere	SD383 980	Arqiva	19	Share into existing National antenna – 2 Tiers of a DAB dipoles	Existing	0.5	Within 12 months of award
Kendal	SD540 912	Arqiva	40	A new antenna consisting of 2 tiers of a single DAB log periodic antenna	New	1.0	Within 12 months of award

- c) Each transmission assignment should also be represented by site implementation data, specific to each transmission site. This detail is intended to elicit the practicability of the technical plan. For each site name (corresponding to assignment details and implementation table):
- ii) If existing aerials are to be used, this needs to be stated and an explicit reference made. If not, then applicants should provide a photograph or scale diagram (or set of photographs or diagrams), showing the portion of the supporting structure on which the radiating aerials are to be mounted. Show the radiating aerials, and the aerials of other services mounted immediately above, below, and at the same level as, the radiating aerials of the applicant's service.
  - iii) Provide details of the location of the building in which the transmission equipment is to be housed, and confirmation that space is available for all of the equipment required (or describe what modifications to buildings and infrastructure will be required, if relevant).
  - iv) Provide confirmation from each of the relevant parties that they have seen and agreed the applicant's proposals (to the extent that this includes new works) in respect of:
    - aerial mounting on the supporting structure, as proposed in the sketch diagram;
    - running of feeder cable from transmission system to aerial(s);
    - sharing of aerials and insertion/use of combiners, where relevant;
    - siting of transmission equipment;
    - supply of power;
    - building works (if any).

The relevant party in each case, namely whoever controls the infrastructure (mast, cableways, building, power), should be named explicitly.

Note: submission of this information does not imply that Ofcom will validate the design of the aerial system. The licensee will be required to adhere as far as is reasonably practicable to the antenna pattern proposed in the assignment details, and in all cases to limit the maximum radiated power in any given direction as may be required by Ofcom.

36. The table below details all the data requested in question 6c ii, iii and iv. Arqiva has confirmed that the designs of the existing antennas and feeder systems are suitable for use at the powers indicated in the Assignment Details, and that the sites can be made available for the proposed transmitter systems. Electrical power is available. Minor building works are required and Arqiva has confirmed it will undertake these.

Site Name	Lancaster	Morecambe Bay	Windermere	Kendal
NGR	SD490662	SD239791	SD383980	SD540912
Existing DAB Site	Existing	Existing	Existing	Existing
Site Owner	Arqiva	Arqiva	Arqiva	Arqiva
Site Owner Approval of proposals	Yes from Arqiva	Yes from Arqiva	Yes from Arqiva	Yes from Arqiva
Antenna Height (agl)	85	81	19	40
Antenna Proposed	Share into existing National antenna – 2 tiers of 3 DAB Panels	Share into existing National antenna – 4 Tiers of a single DAB dipole on a pole	Share into existing National antenna – 2 Tiers of a single DAB dipole	A new antenna consisting of 2 tiers of a single DAB log-periodic antenna
New or Existing Antenna	Existing	Existing	Existing	New
ERP (kW)	1.0	1.0	0.5	1.0
Drive Arrangement	Dual Drive	Dual Drive	Dual Drive	Dual Drive
ACI Issue	NO Co-sited with other services (BBC)	NO Co-sited with other services (BBC)	NO Co-sited with other services (BBC)	NO Co-sited with other services (BBC)
Transmitter Location Notes	New transmitter to be located within the existing accommodation near to the existing DAB Transmitter. Using existing power and ventilation infrastructure, modified as required	New transmitter to be located within the existing accommodation near to the existing DAB Transmitter. Using existing power and ventilation infrastructure, modified as required	New transmitter to be located within the existing accommodation near to the existing DAB Transmitter. Using existing power and ventilation infrastructure, modified as required	New transmitter to be located within the existing accommodation near to the existing DAB Transmitter. Using existing power and ventilation infrastructure, modified as required
Transmitter Size required	600W	300W	300W	600W

d) Provide the following details regarding transmission arrangements:

- i) Any transmission contracts that have been agreed
- ii) The status of these agreements

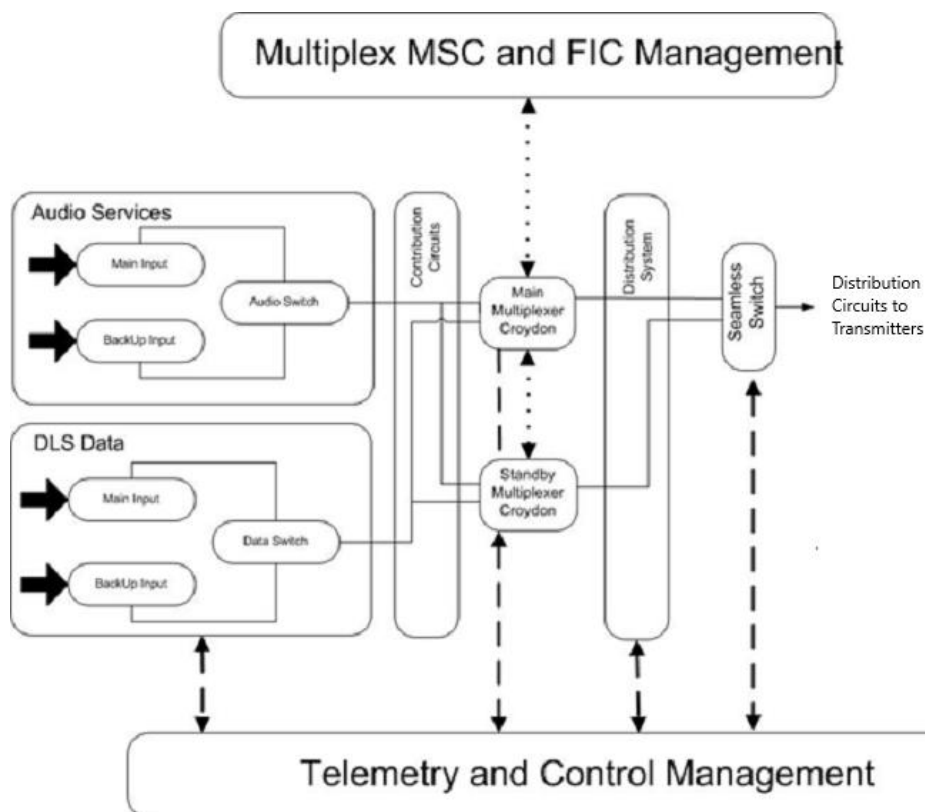
37. MuxCo has an initial offer from Arqiva. Formal contract negotiations will be concluded after award. MuxCo and Arqiva have experience in concluding contracts and we do not foresee any issues.

## 7. Other technical proposals

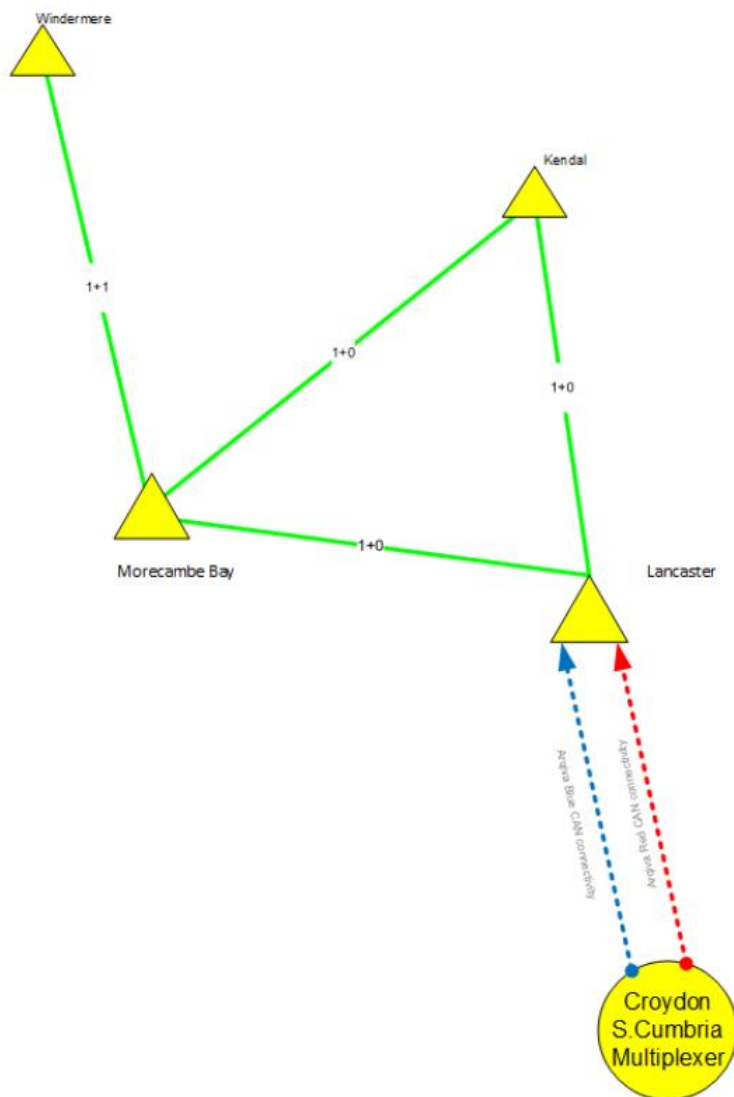
a) Supply a network diagram, with associated tables and labels as necessary, showing in terms of functionality and (in principle) location: the source of each proposed digital sound programme service, digital additional service or television licensable content service, the point(s) of multiplexing, the point(s) of control of the elements of the multiplex (both FIC and MSC) and the distribution circuits to the transmitters. State the nature of the bearer circuit in each case, and its possible provider.

38. Figure 7.1 and Figure 7.2 show the proposed contribution network and multiplex ETI distribution diagram. The specific details of each of the individual content provider's contribution circuits are documented in drawing 7.1. The details of the distribution elements of the network are included in drawing 7.2.

**Figure 7.1: Multiplexing and Control**



**Figure 7.2: Transmission distribution**

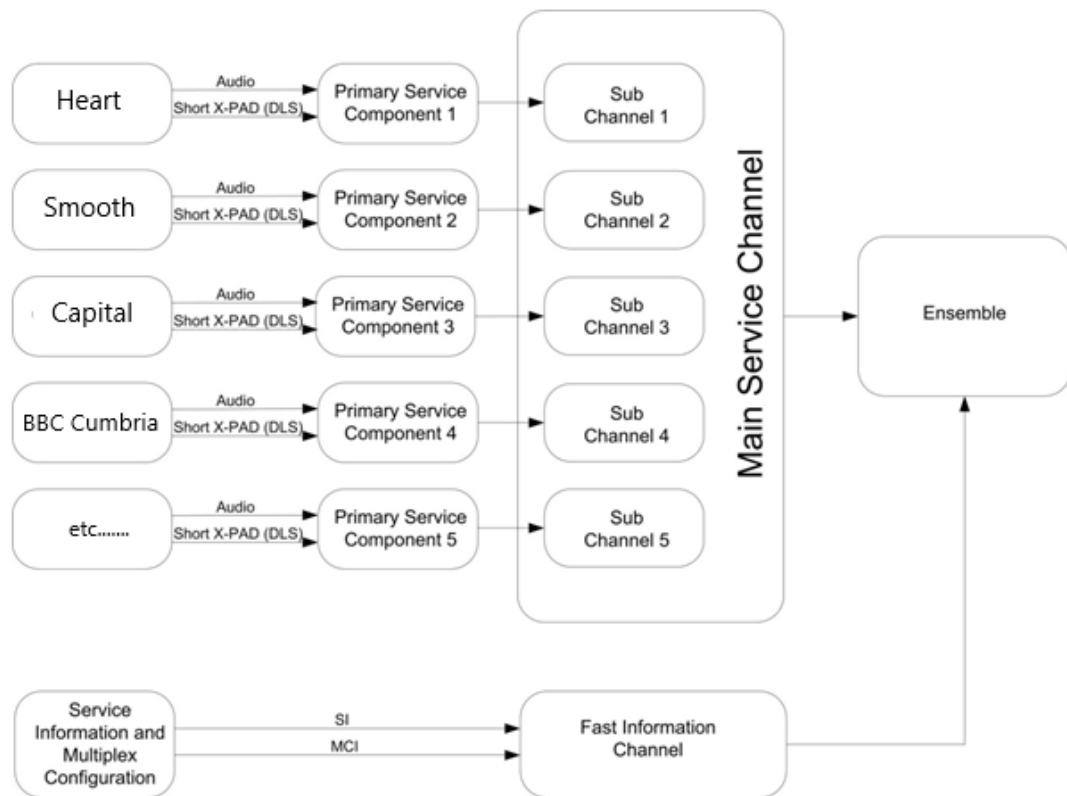


39. Arqiva's Emley Moor network operations centre (NOC) will manage the day to day operation of the transmission system. All aspects of the multiplexer's configuration, including the main service channel (MSC) and the fast information channel (FIC), will be remotely telemetered and controlled through purpose designed systems. The telemetry system will also provide feedback to the NOC for all elements in the contribution and distribution chains.
40. The timing accuracy of the single frequency network will be continuously monitored by Arqiva's proprietary GPS referenced transmitter timing monitoring hardware and software.

41. The following table summarises proposed service provider contribution details.

Service	Service Address	Service Type	Main Contribution Circuit	Back Up Contribution Circuit	Provider
<b>Heart</b>	30 Leicester Square London WC2H 7LA	DSPS	BT Wholesale Ethernet to Arqiva Croydon multiplex then Arqiva managed connectivity to transmitters	BT Wholesale Ethernet to Arqiva Aztec West Bristol then Arqiva managed connectivity to transmitters	BT and Arqiva
<b>Smooth</b>	30 Leicester Square London WC2H 7LA	DSPS	BT Wholesale Ethernet to Arqiva Croydon multiplex then Arqiva managed connectivity to transmitters	BT Wholesale Ethernet to Arqiva Aztec West Bristol then Arqiva managed connectivity to transmitters	BT and Arqiva
<b>Capital</b>	30 Leicester Square London WC2H 7LA	DSPS	BT Wholesale Ethernet to Arqiva Croydon multiplex then Arqiva managed connectivity to transmitters	BT Wholesale Ethernet to Arqiva Aztec West Bristol then Arqiva managed connectivity to transmitters	BT and Arqiva
<b>Bay Radio</b>	TBC	DSPS	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva
<b>Fun Kids Junior</b>	Greenworks Dog & Duck Yard Princeton Street London WC1R 4BH	DSPS	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva
<b>Chris Country</b>	St Hilary Transmitter Nr St Hilary Cowbridge CF71 7DP	DSPS	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva
<b>CandoFM</b>	104 Abbey Road Barrow-in-Furness LA14 5QR	DSPS	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva
<b>Bay Trust Radio</b>	Westmorland General Hospital Burton Road Kendal LA9 7RG	DSPS	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva
<b>BBC Cumbria</b>	Centrally supplied by BBC from BBC BH & Wood Norton	DSPS	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva managed connectivity to Arqiva Croydon multiplex and on to transmitters	Arqiva

42. The following diagram shows the relationship between the following elements of the multiplex: services; service components; transport elements (MSC sub-channels: dedicated, and X-PAD; FIDC).



- b) For each of the data services proposed in Q.11(d) and Q.12, outline how compliance will be achieved with the requirement that no more than the statutory proportion of the total multiplex capacity will be devoted to non-programme related data services (see paragraphs 4.46-4.47; the figure excludes Synchronisation, MCI and SI). See also Q.19, about audio services.

43. The following table summarises data services.

Service	Transport Mechanism	Stream or Packet Mode	Average net data rate	Service Type	Encryption	Use
Heart	Short X-PAD	Stream	1.333kbits/s	Ancillary and DAS	No	DLS
Smooth	Short X-PAD	Stream	1.333kbits/s	Ancillary and DAS	No	DLS
Capital	Short X-PAD	Stream	1.333kbits/s	Ancillary and DAS	No	DLS
Bay Radio	Short X-PAD	Stream	1.333kbits/s	Ancillary and DAS	No	DLS
Fun Kids Junior	Short X-PAD	Stream	1.333kbits/s	Ancillary and DAS	No	DLS
Chris Country	Short X-PAD	Stream	1.333kbits/s	Ancillary and DAS	No	DLS
CandoFM	Short X-PAD	Stream	1.333kbits/s	Ancillary and DAS	No	DLS
Bay Trust Radio	Short X-PAD	Stream	1.333kbits/s	Ancillary and DAS	No	DLS
BBC Cumbria	Short X-PAD	Stream	1.333kbits/s	Ancillary and DAS	No	DLS

## **Section 51(2)(b): Timetable for commencement of services**

### **8. Commencement of services**

If it is envisaged that any of the digital sound programme services or their related ancillary services will not begin broadcasting from the start of the radio multiplex licence period, provide details of which service(s) will not commence from the launch of the radio multiplex service, the reason(s) for this, and an indication of the expected timescale for the commencement of the service(s).

44. MuxCo is committed to launch the multiplex with all identified programme services within 12 months of a successful award.

## **Section 51(2)(c): Ability to establish and maintain proposed service**

### **9. Ownership and control of company which will hold the licence**

#### **(a) Board of Directors**

i) Provide the name, occupation, other directorships, other media interests, background and relevant media experience of each director (executive and nonexecutive), including the proposed chairperson.

ii) If there are firm plans to appoint any further directors, provide information (with details of any specific individuals in mind). This information may be submitted in confidence.

45. There are no plans to appoint any further directors.

## **Gregory Watson**

### **Occupation:**

Managing Director, MuxCo Ltd and Folder Media Ltd

### **Other directorships:**

Folder Media Ltd, Folder & Co Ltd, Folder & Co Two Ltd, Folder Media Digital Investments Ltd, MuxCo Ltd, MuxCo North Yorkshire Ltd, MuxCo Northeast Wales & West Cheshire Ltd, MuxCo South Midlands Ltd, Triple MuxCo Somerset Ltd, MuxCo Surrey & North Sussex Ltd, MuxCo Lincolnshire Ltd, Tindle MuxCo Channel islands Ltd, Muxco Investments Ltd, Children's Radio UK Ltd, Children's Radio UK (London) Ltd, Upload Radio Ltd, Inspiring Audio Ltd, Hallett Arendt Marketing and Research Ltd, Mid-Hants Railway Preservation Society Ltd, Audio Producers Association, Ipswich 102 Ltd.

### **Other Media Interests:**

None

46. A Chartered Accountant, Gregory has worked within corporate functions in commercial radio since 1991, initially at the Radio Authority and then at GWR Group / GCap Media with responsibility over new analogue and digital opportunities. In this capacity, Gregory was involved in the Digital One application for the national digital radio multiplex as well as the development of GWR's local multiplex network, NOWdigital.
47. In 2007, recognising that a significant proportion of the radio industry was being left behind by digital advancements, Gregory created Folder Media and MuxCo with Matt Deegan to develop digital media opportunities.
48. Gregory has always been passionate about commercial radio broadening its horizons and developing new commercial opportunities. In 2005, he orchestrated the establishment of Children's Radio UK Ltd, which today broadcast as Fun Kids, the UK's only radio station dedicated for children and their parents; and in 2018 was part of the team who brought local radio back to Ipswich with the launch of Ipswich 102.
49. Gregory's role will be to oversee the day to day operations of MuxCo and Morecambe Bay & South Cumbria multiplex. This will include contract negotiation with Arqiva and service providers and management of the Folder Media team.

## **Matt Deegan**

### **Occupation:**

Creative Director, Folder Media Ltd

### **Other directorships:**

Folder Media Ltd, Folder & Co Ltd, MuxCo Ltd, MuxCo South Midlands Ltd, Muxco Investments Ltd, Children's Radio UK Ltd, Children's Radio UK (London) Ltd, Upload Radio Ltd, Podcast Awards Ltd, Next Conferences Ltd, Podcastlive Ltd.

### **Other Media Interests:**

None

50. Matt's involvement in the sector started at University, where he ran the student radio station. After graduation he worked at the Radio Academy before joining GWR in 2001. At GWR, Matt worked alongside Gregory Watson on the group's FM and DAB licence applications as well as other corporate development projects. Following the merger of GWR and Capital Radio, he worked as a Strategy Executive at GCap Media on projects including the renewal of Classic FM's analogue licence, the group's digital brand development and XFM's new licence strategy, including the successful award of a South Wales FM licence.
51. In 2007, Matt joined Gregory Watson at Folder Media as it started to apply for a raft new local DAB multiplexes under the MuxCo banner.
52. Since Folder Media acquired Fun Radio in 2009, and rebranded it as Fun Kids, Matt has been responsible for all of its creative output including the linear radio station, a podcast network, live events, video and social media.
53. Matt also leads Folder & Co, a production company that draws on Folder Media's infrastructure alongside talent from across the industry to deliver large-scale audio production projects. This has included the most successful new podcast of 2018 – 'Love Island: the Morning After' as well as radio shows and podcasts for BBC Radio 1 and BBC Radio 4 amongst others.
54. Outside of his work at Folder Media and Fun Kids, Matt co-created the Next Radio Conference, the British Podcast Awards and Podcast Live.
55. Throughout this activity, Matt's been a core part of the MuxCo team, working with new service providers to arrange their onboarding to the company's multiplexes.

## Jason Bryant

### Occupation:

Executive Chairman, Nation Broadcasting Ltd

### Other directorships:

Nation Radio Ltd, Haven FM (Pembrokeshire) Ltd, Radio Carmarthenshire Ltd, Nation Broadcasting Ltd, Radio Ceredigion Ltd, Bridge FM Radio Ltd, Swansea Bay Radio Ltd, MuxCo Northeast Wales and West Cheshire Ltd, MuxCo Wales Ltd, MuxCo North Wales Ltd, Muxco Suffolk Ltd, Digital Broadcast Technologies Ltd, Radioscape Ltd, Nation Resources Ltd, Nation Digital Media Ltd, Sun FM Limited, Nation Radio Scotland, Limited, Ipswich 102 Ltd, Nation Radio Investments Ltd, Brave Broadcasting Ltd, Nation Broadcasting Investments Ltd, Nation Broadcasting Investments (South) Ltd, Nation Broadcasting Investments (East) Ltd, Thames Radio Ltd, Country Broadcasting Ltd, Dragon Radio Ltd.

### Other Media Interests:

None

57. Jason's radio career spans BBC and commercial, local and national, speech and music. He was Programme Director at talkRADIO, launch Managing Director at talkSPORT and Development Director at Virgin Radio. In 2001 Jason established Town and Country Broadcasting - later rebranded Nation Broadcasting – which has grown into one of the UK's leading commercial radio businesses with operations across England, Scotland and Wales.
58. Nation is a significant investor in DAB radio - with involvement in four MuxCo multiplexes - wholly owned licences in Mid & West Wales and North Wales, and shareholdings in North East Wales & West Cheshire and Suffolk multiplexes. Nation also owns Glasgow's trial city multiplex.
59. Nation has a strong track record of profitability and a strategy of sustainable growth through licence wins and acquisition.
60. In Wales, Nation Broadcasting offers Nation Radio and Dragon Radio across the country, along with four local commercial radio stations covering South and West Wales. In England, Nation Broadcasting broadcasts Nation Radio and Chris Country Radio across London and the South East, with Sun FM covering Sunderland and Wearside, recently adding Sam FM and The Breeze in the Solent area and KCFM in Hull to the group. In Scotland, 96.3FM Nation Radio covers Glasgow and West central Scotland and Your Radio broadcasts across Dumbarton and Helensburgh.

## **Bill Johnston**

### **Occupation:**

Director

### **Other directorships:**

Bay Ventures 2018 Ltd.

### **Other Media Interests:**

None

61. Bill's radio career spans almost 30 years, with half of that period working in the core area of Morecambe Bay. After starting out at LBC in 1991, Bill developed a track record in local radio sales and marketing at a number of commercial radio groups.
62. After a stint at UKRD, Bill joined TLRC and was Managing Director of the Kettering, Corby and Wellingborough licence between 1996 and 2000. In 2001, he joined CN Group managing various group stations and in 2003 he became managing director of The Bay, a post he held until 2018.
63. Bill has a very strong commercial track record and whilst at The Bay the station was consistently profitable and delivered strong audience figures, at one stage achieving the highest audience market share in England. With a huge community focus and "localness is our DNA" culture, The Bay became famous for getting results and for being champions of the local community across North Lancashire and South Cumbria.
64. Bill led The Bay to multiple awards success at the Arqiva Awards with 6 wins and 9 nominations. Locally, the station received an award from Morecambe Town Council for services to the community and a commendation from Lancashire Police. In 2015 The Bay was nominated as Community Focussed Business of the Year at The Love Barrow Community Awards. Bill led the station's award winning coverage of the devastating 2015 floods, which was recognised by Downing Street.
65. Bill's leadership style was very much "under the skin" of the local community and he worked very closely with various organisations across North Lancashire & South Cumbria. He was a director of the Lancaster District Chamber of Trade and Barrow Business Improvement District and a committee member of Lancaster BID, Morecambe BID, Morecambe Carnival, Carnforth Carnival, Barrow's Community Awards and he acted as Chair of The Bay Living Awards. His support and passion for the local community meant that Bill, and the radio station, built up a huge amount of brand equity and respect amongst local businesses, politicians and stakeholders.

## (b) Proposed Investors and Shareholding Structure

Full details of the proposed shareholding structure should be provided, including:

- i) Names and addresses (the latter may be submitted in confidence) of all existing or proposed shareholders.

Shareholder	Shares	% Shareholding	% Loan stock
<b>MuxCo Ltd</b> Greenworks, Dog and Duck Yard, Princeton Street, London WC1R 4BH	49	49.0%	49.0%
<b>Nation Broadcasting Ltd</b> St Hilary Transmitter Nr St Hilary Cowbridge CF71 7DP	51	51.0%	51.0%

- ii) Total number, class/classes of shares and issue price of shares (specify voting, non-voting, preference, other etc.).

66. 100 £1 ordinary shares issued at par.

- iii) All voting shareholders and holders of 5% or more of non-voting shares and loan stock should be named. State the number, class/classes and price of shares to be issued to each investor.

67. See above.

- iv) Outline any shareholders agreements or arrangements which exist.

68. A standard shareholders agreement will be entered into after the award of the licence. The shareholders have agreed terms which cover key issues of governance relating to the company including shareholdings, board composition, funding, pre-emption and confidentiality.

- v) Where a corporate body other than a current Ofcom licensee will be providing 30% or more of the required funding, details should be given of its directors and main shareholders, and of its activities.

69. Not applicable.

- vi) Where the applicant is an existing company or subsidiary of an existing company, the applicant should provide the last three years' statutory accounts and management accounts for the last financial year for the applicant and/or the parent company.
70. MuxCo Cumbria Ltd is a new company that has not traded.
71. Statutory accounts for MuxCo Ltd are provided under separate cover.
- vii) Ofcom may request additional information (e.g. a banker's letter, statutory/management accounts) regarding the shareholders, or any other providers of finance, listed in the application.
72. We would be happy to provide any information as requested by Ofcom.

### (c) Involvement of the Applicant in Specified Activities

Details are required of the involvement by the applicant and its participants (including shareholders or other subscribers of more than 5% of the applicant's total funding requirements) in any of the activities listed below, and the extent of the interest. For these purposes, the applicant includes associates of the applicant (i.e. directors and their associates and other group companies).

#### i) Advertising agencies;

None

#### ii) Newspapers;

None

#### iii) Other broadcasting interests;

#### Nation Broadcasting Ltd

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Swansea Bay Radio Ltd (100%)</li> <li>• Radio Carmarthenshire Ltd (100%)</li> <li>• Nation Radio Ltd (100%)</li> <li>• Sun FM Limited (100%)</li> <li>• Nation Broadcasting Investments (South) Ltd (100%)</li> <li>• Thames Radio Ltd (100%)</li> <li>• Dragon Radio Ltd (100%)</li> <li>• Nation Radio Investments Ltd (100%)</li> <li>• MuxCo Northeast Wales and West Cheshire Ltd (33%)</li> <li>• MuxCo North Wales Ltd (100%)</li> </ul> | <ul style="list-style-type: none"> <li>• Haven FM (Pembrokeshire) Ltd (100%)</li> <li>• Bridge FM Radio Ltd (100%)</li> <li>• Radio Ceredigion Ltd (100%)</li> <li>• Nation Radio Scotland Limited (100%)</li> <li>• Nation Broadcasting Investments (East) Ltd (100%)</li> <li>• Country Broadcasting Ltd (75%)</li> <li>• Nation Digital Investments Ltd (100%)</li> <li>• MuxCo Wales Ltd (100%)</li> <li>• MuxCo Suffolk Ltd (33%)</li> </ul> |
|--|---|

#### MuxCo Ltd

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• MuxCo Northeast Wales and West Cheshire Ltd (33%)</li> <li>• MuxCo Surrey &amp; North Sussex Ltd (50%)</li> <li>• Triple Muxco Somerset Ltd (33.3%)</li> <li>• MuxCo Suffolk Ltd (33%)</li> </ul> | <ul style="list-style-type: none"> <li>• MuxCo South Midlands Ltd (40%)</li> <li>• MuxCo North Yorkshire Ltd (50%)</li> <li>• MuxCo Lincolnshire Ltd (49%)</li> </ul> |
|--|---|

#### Gregory Watson

- Ipswich 102 Ltd (20%)
- Children's Radio UK Ltd (50%)

**Matt Deegan**

- Children's Radio UK Ltd (50%)

**Jason Bryant**

- Ipswich 102 Ltd (40%)

iv) Bodies whose objects are wholly or mainly of a religious nature;

None

v) Bodies whose objects are wholly or mainly of a political nature;

None

vi) Local authorities;

None

vii) Other publicly-funded bodies.

None

## 10. Financial and business plan

### (a) Overall Financial Strategy

Explain how the applicant considers it is able to establish and maintain, throughout the licence period, its proposed service. This explanation should include an assessment of each of the following, but is not restricted to these factors:

- i) The network construction phase
- ii) The operational start-up phase
- iii) Marketing
- iv) Ongoing operation of the service

### Our Strategy

73. MuxCo's strategy is:

- To establish an efficient DAB multiplex business that maximises opportunities for the BBC and existing commercial operators, as well as new national, local and community focused services
- To broadcast in Morecambe Bay using DAB and DAB+ technology, broadening choice and creating new commercial opportunities
- To re-emphasise local radio as an important part of radio's digital future
- To be part of the MuxCo network of local multiplexes, sharing best practice and future opportunities
- To provide a return on investment to shareholders

### The Shareholders and their Digital Strategies

74. **MuxCo** was established in 2007 by Gregory Watson and Matt Deegan to provide digital radio solutions to local radio companies and other parties interested in developing on DAB. Its management team has extensive experience as a multiplex operator at local, regional and national level. It established and operated the NOWdigital network for GWR Group / GCap Media and local multiplexes owned by consortia in which GCap Media was a partner. Gregory was also instrumental in the Digital One application and launch. MuxCo's strategy is to build and operate a network of local multiplexes, and to be flexible in providing opportunities for services to broadcast on DAB.
75. **Nation Broadcasting** was established by Jason Bryant to build a local network of radio stations. It has an excellent track record establishing and maintaining local radio licences and in recent years has brought this creative and commercial success to digital radio. . Nation is a shareholder in four MuxCo multiplexes. Through its participation in DAB ownership and its strong existing production resources, Nation is able to be confident about its investment in digital service provision.

## The Business Plan and its Objectives

76. The key objectives underlying the MuxCo business plan are:
- To operate a multiplex that offers the latest DAB technology to service providers
  - To offer a wide choice of programme services which address local tastes and interests, broaden choice and increase plurality.
  - To promote and maximise take-up of digital radio receivers by working with our service providers and industry bodies such as Digital Radio UK.
  - To operate in a manner ensuring fair and effective competition.
  - To operate a sound financial business, with confirmed service providers helping to demonstrate viability.
77. The shareholders are satisfied that MuxCo is well resourced technically as well as financially to support the needs of service providers.
78. The Board has the following responsibilities:
- The company's business strategy
  - Monitoring and reviewing trading performance
  - Appointing and contracting with service providers
  - Developing multiplex bandwidth policies
  - Developing pricing structures
  - Appointment and supervision of the Multiplex Manager
  - Regulatory compliance
79. Folder Media will provide multiplex management services. Folder Media has unparalleled experience in the day-to-day management of successful local multiplexes. Its management team currently manages Wireless Group and Bauer multiplexes in addition to the MuxCo network. It will ensure that changes and any requirements from service providers can be enacted in a timely and cost-effective manner, and will ensure that the multiplex is responsive to the changing radio marketplace.
- (i) The network construction phase**
80. There are three stages to the network construction phase – planning, building and testing.
81. **Planning** – the design of our transmission plan has taken into account the requirements of service providers, including BBC and commercial services, to ensure that key population centres and roads are well covered. A number of iterations have been produced before settling on a commercially prudent plan that maximises coverage and meets our planning criteria. Arqiva has provided strategic support during this stage and will liaise with Ofcom for transmission matters on behalf of MuxCo.

82. **Building and Testing** – Following award, we will work with Arqiva to finalise our plan and prepare milestones to the launch of the multiplex. This will include international clearance, the build timetable and service provider installation. As an established transmission service provider, Arqiva has existing resource and the infrastructure to build the proposed transmission network efficiently and to an agreed timetable.

**(ii) The operational start-up phase**

83. MuxCo will contract Folder Media to oversee the launch of the multiplex and its day-to-day operations during the licence term. The operational start-up phase includes contracting with service providers, monitoring the installation of multiplex equipment at service providers' studios and ensuring that necessary testing is undertaken prior to launch; liaising with Ofcom over the build process; ensuring regulatory issues are followed, including the issuing of DSP licences; and liaising with Digital Radio UK and service providers on marketing activity, including ensuring the postcode checker is up to date with the new coverage and service information.

**(iii) Ongoing operation of the service**

84. As multiplex manager, Folder Media will be responsible for:
- Overseeing bit rate variations, enhancements or projects required by service providers, such as EPG provision, temporary services and data developments.
  - Working with service providers and Arqiva to maximise multiplex functionality and efficiency.
  - Monitoring and fault reporting, ensuring that the output of all service providers is correctly logged and compliant with legislation and codes
85. Folder Media will provide ongoing management cover for the multiplex, including purchase and sales ledgers, IT, secretarial, legal, research, marketing coordination and technical support. It also maintains the MuxCo website, which will promote the multiplex and the opportunities that it offers.
86. Folder Media has a well-established and successful multiplex management operation looking after over 100 radio services and transmitters. It combines full-time talented staff with industry-leading systems that provide real time monitoring and status for the multiplexes it manages.

- 87. Folder Media has developed Dash, an online tool that ingests service information, planned work and faults from Arqiva and provides up to the minute relevant, personalised information to service providers. Dash also helps Folder Media investigate repetitious faults from Arqiva and service providers to identify and solve service affecting problems.
- 88. Arqiva has considerable resource and infrastructure to support the multiplex. Its 24-hour operations centre at Emley Moor will control multiplex re-configurations, which will be undertaken in line with our policies and contractual agreements with service providers.

**(iv) Marketing**

- 89. Digital Radio in the UK has developed significantly since the last major round of multiplex awards. Digital radios are now inexpensive, and station launches from the BBC and commercial radio has driven take-up.
- 90. We will work closely with our service providers to help co-ordinate locally focused marketing of digital radio and the services on the multiplex, with advice provided where relevant by Folder Media.
- 91. Service providers are likely to undertake their own brand marketing highlighting their appearance on DAB. We will work with service providers, particularly local analogue operators, to use their airtime to promote DAB digital radio.
- 92. We will liaise with service providers to use Digital Radio UK's campaigns and materials.

## (b) Funding

Detail the sources of finance that will be used to fund the licence, under the following headings:

93. MuxCo will be entirely funded by its shareholders. Each has committed to invest its share capital and provide the identified short-term loans. As such, there is no requirement for MuxCo to seek any specific loans, grants, donations or bank overdrafts.

Source of finance	£
Share capital	100
Loan stock	10,000
Leasing/HP facilities (capital value)	0
Bank overdraft	0
Grants and donations	0
Other	0
<b>Total</b>	<b>10,100</b>

Applicants should provide evidence that sufficient funds are available to each investing shareholder to cover their proposed investments.

94. Letters of investment are provided in Part B.

For incorporated investing shareholders, applicants should provide a copy of the most recent statutory accounts.

95. The accounts for the shareholders are provided under separate cover.

Where relevant, provide information on:

- i) Loan terms (e.g. interest rate, repayment terms, redemption/conversion terms);
- ii) Assets leased.

96. Shareholder short term loans will bear no coupon and no assets will be acquired or leased by the company.

All of the funding identified above should be confirmed to the applicant. If any funding has not been confirmed, or if there are any pre-conditions that have not yet been met that need to be met before the funding is released to the applicant, provide an explanation of what needs to be done, the dates by which it needs to be carried out, and any steps the applicant needs to take to ensure the funding is confirmed and/or released.

97. Letters of investment are provided in Part B.

### **(c) Financial Projections**

The purpose of this question is to allow the applicant to demonstrate its understanding of the market. The forecasts should be based on reasonable assumptions that are logically applied and justifiable.

A letter should be provided from a firm of Independent Accounts, addressed to the board of directors of the applicant, confirming the results of agreed-upon procedures carried out under the International Standard on Related Services (ISRS) 4400; Engagements to Perform Agreed-Upon Procedures Regarding Financial Information. The letter should confirm:

- g) Whether the projections contained in the financial model have been accurately compiled on the basis of the assumptions listed and explanatory notes accompanying the projections; and
- h) Whether the assumptions listed and explanatory notes follow International Financial Reporting Standards and Generally Accepted Accounting Policies.

The applicant should provide financial projections for the pre-operational period and on an annual basis for the subsequent 12-year licence period. The projections must include:

- i) Profit and loss accounts
- ii) Balance sheets
- iii) Cash-flow forecasts
- iv) Appropriate supporting schedules

The forecasts should be supplied on an Excel spread-sheet or similar and guidance notes should be provided. The applicant must also complete and submit the spreadsheet entitled “Financial Template for DAB Local Radio Multiplex Licence Applications” at: <https://www.ofcom.org.uk/manage-your-licence/radio-broadcast-licensing/apply-for-a-radiobroadcast-licence> using information from its business model. Guidance notes for completion of the Template can be found in Annex 2 to this Notice. This section must include a full listing of the underlying assumptions on which the financial projections are based.

The application should detail how revenue figures were derived, distinguishing between:

- i) Access fees
- ii) Fees based on audience or revenue shares
- iii) Other fees (please specify)

Revenue forecasts should also distinguish between digital sound programme, digital additional and television licensable content services.

The application should clearly set out the fee structure for each service provider, and explain the reasons for any differences in fees paid between providers. Where the applicant expects to receive fees based on audience or revenue shares of the services carried on the multiplex, forecasts of the audiences and revenues of those services should be provided.

98. Our response is submitted in confidence.

**(d) Risks**

The financial information submitted by applicants should demonstrate that the business plan has sufficient resilience for the service to be maintained despite adverse movements in revenues and costs arising from more difficult trading conditions than expected. The business plan must therefore:

- i) Incorporate a set of sensitivity tests, and;
- ii) Provide details of the main operational and financial risks to the business plan and explain how the applicant proposes to address these risks.

99. Our response is submitted in confidence.

## Section 51(2)(d): Catering for local tastes and interests

### 11. Proposed local digital sound programme services

- i) Provide, for each local digital sound programme service for which capacity is to be allocated, a description of the service. This description should encapsulate the nature and characteristics of the proposed service (e.g. type(s) of music and speech to be provided, target audience, etc.). The number of hours each day that the service will be broadcast must also be included. These service descriptions will form part of the licence. Therefore, questions of clarification may be asked prior to licence award and the wording amended to reflect this, if necessary.
- j) Outline the expected target audience of each local digital sound programme service to be accommodated on the multiplex, in terms of demographic profile (i.e. age-range, gender, socio-economic background), ethnic composition, and/or any other relevant characteristics. To what extent will each of these services cater for local tastes and interests, general or particular?
- k) If agreement has been reached (either firmly or provisionally; state which) with particular providers of some or all of the local digital sound programme services to be accommodated on the multiplex, identify these programme providers. For each one, state whether it has already been issued by Ofcom with a licence to provide a local digital sound programme service. Details of any arrangements with particular providers which the applicant considers to be commercially sensitive may be submitted in confidence.

100. MuxCo proposes a minimum of 9 digital sound programme services at launch, comprising a mix of familiar well-loved local and national brands which taken as a whole will appeal to a wide variety of tastes and interests:

• Heart	Analogue simulcast
• Smooth	Analogue simulcast
• Capital	Digital only
• Bay Radio	Digital only
• Fun Kids Junior	Digital only
• Chris Country Radio	Digital only
• CandoFM	Digital only
• Bay Trust Radio	Digital only
• BBC Radio Cumbria	Analogue simulcast (reserved capacity)

101. All services are proposed 24/7.

### Heart FM

<i>Format Description</i>	The local contemporary and chart music station.
<i>Target Audience &amp; Demographic Profile / Local Tastes &amp; Interests</i>	Heart's target audience is aged 15 to 44, with a female profile.  Heart is the local radio station, providing a mix of popular music and speech content including local news, traffic, weather and entertainment news. Local bulletins are broadcast between 0600 and 1900 weekdays, and 0600 and 1200 at weekends. National bulletins are broadcast at other times of the day.
<i>Agreement</i>	Confirmed with Global Radio, who hold a local DSPS.

### Smooth Radio

<i>Format Description</i>	The local easy listening station.
<i>Target Audience &amp; Demographic Profile / Local Tastes &amp; Interests</i>	Smooth's target audience is aged 45 to 64, with a male profile.  Smooth Radio is a 'relaxing music mix', playing the best songs from the past five decades. It's a station with an upbeat character, generous spirit and a warm personality. News bulletins are broadcast between 0600 and 1900 weekdays, and 0600 and 1200 at weekends. National bulletins are broadcast at other times of the day.
<i>Agreement</i>	Confirmed with Global Radio, who hold a local DSPS.

### Capital

<i>Format Description</i>	Contemporary hit music
<i>Target Audience &amp; Demographic Profile / Local Tastes &amp; Interests</i>	Capital appeals to 15 to 34 year olds, with a female skew.  Capital is a national radio station, playing the biggest hits from the hottest hit music artists, and will play an important role in driving digital take-up, particularly from younger listeners.
<i>Agreement</i>	Confirmed with Global Radio, who hold a local DSPS.

### Fun Kids Junior

<i>Format Description</i>	Children
<i>Target Audience &amp; Demographic Profile / Local Tastes &amp; Interests</i>	Fun Kids Junior targets pre-school children and their parents.  Fun Kids Junior serves a specific community of interest, namely pre-school children. It talks about things that are relevant to children wherever they live, and hence speech content will be applicable to children and families in Morecambe Bay. Additional local information can be provided through the Fun Kids website.
<i>Agreement</i>	Confirmed with Children's Radio UK, who hold a local DSPS.

### Bay Radio

<i>Format Description</i>	Local Full Service
<i>Target Audience &amp; Demographic Profile / Local Tastes &amp; Interests</i>	Bay Radio will target a 25+ audience.  A music and local information service for Morecambe Bay and South Cumbria, with news and information across daytime.
<i>Agreement</i>	Confirmed with Nation Broadcasting, who hold a local DSPS.

### Chris Country Radio

<i>Format Description</i>	Country music
<i>Target Audience &amp; Demographic Profile / Local Tastes &amp; Interests</i>	Chris Country serves the tastes and interests of a broad audience of country music fans aged 15+.  Chris Country is clearly distinctive, with no other service being a service for country music fans.
<i>Agreement</i>	Confirmed with Country Broadcasting Ltd, who hold a local DSPS.

### CandoFM

<i>Format Description</i>	Community radio service
<i>Target Audience &amp; Demographic Profile / Local Tastes &amp; Interests</i>	CandoFM is a community radio station for 16 to 40 year olds in Barrow-in-Furness. It provides a music-led, local service with a social voice and tailored for people in the area. It is a distinctive service that provides a range of community benefits both on-air and off-air.
<i>Agreement</i>	Confirmed with Furness Broadcasting Media Ltd, who will apply for a C-DSP.

### Bay Trust Radio

<i>Format Description</i>	Community radio service
<i>Target Audience &amp; Demographic Profile / Local Tastes &amp; Interests</i>	Bay Trust Radio provides a local radio service to people living in North Lancashire and South Cumbria with local information, news and music.
<i>Agreement</i>	Confirmed with Bay Trust Radio, who will apply for a C-DSP.

- l) Give details of any programme-related 'data' or other services to be provided to enhance the audio elements of the local digital sound programme services proposed to be provided. List separately those provided by the relevant local digital sound programme licensees themselves (as 'ancillary' services) and those, if any, provided by other parties under a digital additional services licence.
102. The multiplex will support Dynamic Label Services ('DLS') using simple, industry standard interfaces allowing service providers to use the 'off-the shelf' and well-supported software packages for generating content. From launch, all service providers will have access to scrolling text functionality. As data technologies and standards mature, we will work with service providers to launch other data services.
103. Scrolling text functionality (Dynamic Label Services – 'DLS') provides an immediate point of difference between a digital radio and a traditional FM receiver.
104. At launch, the DLS services for all commercial content providers will be both Ancillary Services and Additional Data Services allowing carriage of programme related data and carriage of advertising content. Each data service will be licenced accordingly.
- m) If it is intended to use an encryption system, state that this is so, and make clear to which local digital sound programme services it will apply, and how listeners will subscribe to the service.
105. There are no plans to use an encryption service.

## **12. Digital additional services and television licensable content services**

Provide details of any digital additional services and/or television licensable content services planned, other than programme-related data services (see Q.11(d) above), and the proportion of the total multiplex capacity which will be allocated to each of these.

106. None are currently proposed.

## Section 51(2)(e): Broadening of local commercial DAB choice

### 13. Broadening of choice

Outline how the programming provided by the local digital sound programme services (other than BBC services) proposed will broaden the range of local digital sound programme services available in the area, and describe the extent to which the proposed local digital sound programme services will cater for tastes and interests different from those catered for by local digital sound programme services already available in the area. If the licence applied for is the first local radio multiplex licence to be advertised in an area, detail the breadth of programming which will be delivered by the range of local digital sound programme services to be provided on that local radio multiplex alone.

107. The following table summarises how each service helps broaden choice.

<b>Heart</b>	Heart is the local music and speech service. It is a music led station playing a broad mix of contemporary and chart hits, with new releases and hits up to one year old. By the nature of its format, there will be some overlap with other services in relation to music played.  Heart appeals to those with an interest in contemporary hit radio. Given its current strong market position, Heart will play an important role in the promotion of digital radio.
<b>Smooth</b>	Smooth features easy listening music including music influenced by jazz and soul and lifestyle oriented speech, targeting an audience aged 50-plus. Its presenter style and speech focus will give it a unique feel in the market and differ significantly from the broader or multi-genre music services on the multiplex.
<b>Capital</b>	As a hit music station, the music mix on Capital is more focused and contemporary than any of the other services proposed on the multiplex.
<b>Fun Kids Junior</b>	Fun Kids is unique station in the UK, providing a service that reflects the tastes and interests of children – and would be similarly unique in Morecambe Bay & South Cumbria. It is a music-based services with a high speech content including stories and educational content. RAJAR identifies 10,500 children live in Morecambe Bay & South Cumbria, with thousands more aged under 10. No radio service currently provides radio programming dedicated to children – a gap which Fun Kids helps fill.
<b>Bay Radio</b>	A new local service for Morecambe Bay and South Cumbria, providing local news and information alongside great music for a 25+ audience.
<b>Chris Country Radio</b>	Chris Country is clearly distinctive, with no other service being a service for country music fans.
<b>CandoFM</b>	Barrow in Furness's community radio service, with a local and community focus that will bring something new to the entire area, significantly broadcasting choice.
<b>Bay Trust Radio</b>	A distinctive community service that will bring something new to the entire area, significantly broadcasting choice.

108. There is currently no local DAB multiplex for Morecambe Bay, although there is some overlap from the Lancashire multiplex.
109. Our proposed bouquet of programme services substantially broadens listener choice with the breadth and range of its services appealing to all tastes and interests.
  - The services span the demographics from younger to older – stretching from Fun Kids Junior to Bay Radio.
  - The services span the musical spectrum, with clearly differentiated music offerings – from country music with Chris Country to the broad, mainstream mix of Bay Radio.
  - The services offer a mix of speech – from local news and information of Bay Radio, Heart and Smooth to the engaging speech of Fun Kids.
110. MuxCo offers a strong portfolio of established and new local services, some of which are available in Morecambe Bay for the first time, ensuring that the new multiplex will quickly become a popular choice for new and existing commercial radio listeners.

## Section 51(2)(f): Local demand or support

### 14. Audience requirements

Summarise the main findings of any original market research undertaken, or any analysis of existing audience research information, or any other form of evidence which demonstrates demand for the types of programme service and/or programme-related data or other data services proposed, or has otherwise influenced the applicant's proposals.

If original market research has been undertaken, please provide the following information for each piece of research:

- A statement of the key objectives of the research;
- The specific questions that the research sought to answer;
- How the research was conducted;
- The size and composition of the sample(s);
- When and where the research was conducted;
- A summary of the main findings from the research, showing how these demonstrate evidence of demand for the service proposed – this summary should represent a fair and accurate summary of the full results;
- A copy of any detailed audience research report or analysis, from which the summary provided in the main application document has been derived, full data tables for any quantitative research undertaken, and any questionnaire used (these may be submitted in confidence).

Please provide your responses to (a) – (e) in tabular format.

	Key Objectives	Specific Questions	How Conducted	Size and Composition	When
<b>Desk Research</b>	To analyse the local market.  To get an up to date picture of the digital landscape.	To review population growth and change.  To track digital penetration.	Local census data  Review of DRUK and relevant RAJAR data on digital audiences.	Not relevant	June to September 2019
<b>RAJAR</b>	To understand the local radio market.	To track the performance, strengths and weaknesses of existing services.	Using the Octagon analysis system and RAJAR data.	Not relevant	June to September 2019

## Digital radio for Morecambe Bay

111. We have analysed current radio listening within the combined Heart and Smooth TSAs, which has an adult population of 280,700. The following table analyses the adult population within this Morecambe Bay TSA (Q2 2019 data), highlighting the relative demographic splits of the population, and comparing that with the socio-demographic breakdown of radio listeners within the market.

	UK Population	Area Population		Listeners	
	%	'000	%	'000	%
15 to 24	14.4%	41.8	14.9%	27.0	11.2%
25 to 34	16.5%	35.4	12.6%	30.6	12.7%
35 to 44	15.3%	33.8	12.0%	33.0	13.7%
45 to 54	16.8%	45.7	16.3%	44.4	18.4%
55 to 64	14.6%	46.2	16.5%	41.8	17.4%
65 plus	22.3%	77.8	27.7%	64.1	26.6%
ABC1	54.5%	147.2	52.4%	133.3	55.3%
C2DE	45.5%	133.5	47.6%	107.7	44.7%
Male	49.0%	137.4	48.9%	115.1	47.8%
Female	51.0%	143.3	51.1%	125.9	52.2%

- Morecambe Bay has a slightly higher C2DE profile than the UK as a whole, with a male to female split in line with the UK.
- It has a higher older population than the UK as a whole, with 44.2% aged 55 plus compared to UK average of 36.9%.
- As a result, the 25 to 44 age groups only accounts for 24.6% of the local population, compared to a UK average 31.8%.
- Radio listening is strongest amongst those aged 45 plus, and weak against both the UK and local population amongst 15 to 24s.

## Current radio listening habits

112. The following table details total audience and hours per RAJAR within the Morecambe Bay TSA.

	2015	2016	2017	2018	2019
Population '000s	279.6	280.3	281.1	281.7	280.7
Reach %	90.9%	92.0%	91.9%	87.9%	85.9%
Reach '000s	254.2	257.9	258.2	247.6	241.1
Total Hours '000s	5,219.6	5,349.8	5,209.5	5,001.3	4,620.5
Ave. Hours	20.5	20.7	20.2	20.2	19.2

- Radio reach in the area has seen continual decline since a high in 2016, although hours spent listening amongst those that do listen remains constant.

113. We also reviewed radio listening against the UK as a whole to gauge how listening compares. The following table summarises RAJAR performance in Q2 2019 within Morecambe Bay and compares this with the UK as a whole.

Market Share	Morecambe Bay	UK
All BBC	63.3%	50.8%
BBC Network	53.4%	44.3%
BBC Local	10.0%	6.5%
All Commercial	34.7%	46.4%
INR	22.7%	19.5%
ILR	12.1%	26.9%

- The BBC is strong within the area, both BBC Cumbria and national services.
- Local commercial radio share of listening is low, reflecting that only two local services are available in the area.
- This is offset to a degree by commercial national services filling some of the gap.

### Radio choice

114. The following table summarises the historical performance of the three local services – BBC Cumbria, Heart and Smooth, comparing Q1 2019 with Q1 2018.

	2018	2019
<b>Heart</b>		
Weekly Reach '000	85.6	63.7
Weekly Reach %	30.4%	22.7%
Total Hours '000	596.1	450.8
Market Share	11.9%	9.8%
<b>Smooth</b>		
Weekly Reach '000	12.1	9.2
Weekly Reach %	4.3%	3.3%
Total Hours '000	81.9	52.3
Market Share	1.6%	1.1%
<b>BBC Cumbria</b>		
Weekly Reach '000	24.5	28
Weekly Reach %	8.7%	10.0%
Total Hours '000	272.2	198.7
Market Share	5.4%	4.3%

- Heart is the leading local service in the area, although has experienced a drop in reach and hours over the last year.

- Perhaps reflecting this, BBC Cumbria has seen growth in reach, although not in hours listened, to be the second ranking local service.
- BBC Lancashire is also popular within the Morecambe Bay TSA, reaching 13,200 adults and delivering a market share of 3.9%.
- Smooth has experienced a drop in both reach and average hours over the last year.

115. With regard to national radio, BBC and commercial national analogue services and services carried on the BBC national and Digital One multiplexes are audible within the area:

- Radio 2 is the most popular service in the TSA, with 30.6% reach and delivering a 20.2% market share
- Radio 4 is also strong, with 21.6% reach and delivering a 14.3% market share
- Radio 1 achieves 19.6% reach and a 7.5% market share
- Classic FM is the most popular national commercial service, with 9.5% reach and delivering a 4.8% market share
- Absolute Radio 80s, BBC 6 Music, BBC Radio 3, BBC Radio Live, Heart 80s, LBC, Magic, Planet Rock, Radio X all achieve market share of between 1% and 4%

### **Uptake of digital platforms**

116. The following table summarises listening split between platforms (Q2 2019).

	Reach	Share
Analogue	66.5%	50.8%
DAB	43.0%	34.4%
DTV	15.3%	5.2%
Internet	19.6%	9.5%

## 15. Local support

Provide any evidence which has been gathered of local support for the provision of the proposed local radio multiplex service.

117. We have not sought any local support for our proposal, although have had meetings with the area's MPs to make them aware of our plans. We believe that support for analogue services to simulcast is best demonstrated through their RAJAR audience numbers, and that support for new services will be demonstrated as we build up to their launch and in their initial operational period.
118. To support both analogue simulcast and new digital services, we have a marketing role in generating awareness of digital radio both as a concept and, alongside the service providers, of the complement of services carried on the multiplex.
119. MuxCo Morecambe Bay will be served by the MuxCo website at [www.muxco.com](http://www.muxco.com). Through this site, MuxCo outlines its multiplex opportunities and seeks interest from prospective service providers. A copy of this application and further information about MuxCo Cumbria and the licence opportunity are provided on the site.
120. In addition, the MuxCo website promotes DAB digital radio and links to other multiplex operators elsewhere in the country. The website will also provide a means of communication between the multiplex and service provider, in particular providing information on transmission issues and fault notices.
121. Whilst a local multiplex is a virtual company, there is still a need to develop a relationship with the listeners about the services it carries. We will want to ensure that we understand the local population, their likes and dislikes, the market gaps and what other services it can provide. Therefore, although there is no wish to have a dialogue with the audience, there is a need to provide a means of access and communication.

## **Section 51(2)(g): Fair and effective competition**

### **16. Measures taken to ensure fair and effective competition**

Detail the measures that have already been taken, and will be taken before and during the licence period, to demonstrate that "in contracting or offering to contract with persons providing digital sound programme services or digital additional services or television licensable content services, the applicant has acted in a manner calculated to ensure fair and effective competition in the provision of those services".

- 122. Following Ofcom's advertisement of the licence, we contacted local analogue operators – BBC, commercial and community – to discuss their digital aspirations and invite expressions of interest in providing programme services. We also contacted other radio groups who have known digital aspirations or operate digital service elsewhere.
- 123. We have discussed our transmission plans, headline terms and potential fees (which will be dependent upon the transmission engineering contract that we will enter). A summary of contacts is included in Part B.
- 124. During the licence period, we will always welcome new service providers, established and new – local and community, to make contact and join the multiplex.
- 125. We will continue to promote opportunities through the MuxCo website, online discussion groups and local activity including discussion in local newspapers. To date, we have not advertised our proposals in local newspapers as our experience has identified that during the licence application process, such activity generates little response.
- 126. We have engaged with all potential service providers in an open and non-exclusive manner, and will continue to do so.

#### ***Fair and Effective Competition during the Licence Period***

- 127. Each service provider will enter a Service Provider Agreement; the key terms of which will be identical for all service providers. All fees charged will be based solely on a 'cost plus' basis, related to capacity contracted by each service provider. No fees will be related to audience or revenue.
- 128. We will establish a Service Level Agreement with service providers. This will set out our communications and work policies, especially those relating to planned work and emergency outage notification.

## **17. Contacts with prospective service providers**

Provide a comprehensive list of all prospective providers of digital sound programme services and/or digital additional services and/or television licensable content services with whom the applicant has had contact prior to and during the preparation of this application, at the initiative of either party, and in whatever form. Summarise the nature of the proposals discussed and, for each proposal which is not among those planned for inclusion on the multiplex (as per Q.11 and Q.12 above), state the reason(s) why the prospective provider and/or the service(s) proposed by that provider has not been included.

129. The response to this question has been submitted in confidence.

## **18. Contractual and other arrangements with service providers**

For each digital sound programme service provider and/or digital additional service provider and/or television licensable content service provider named in this application:

- a) Supply details of the terms of access, including financial agreements.
- b) To what extent are any or all of these terms of access conditional? Clarify any conditions that exist.
- c) In respect of each named service provider for which details of terms of access are provided, supply a letter from the service provider confirming its agreement with the account of the terms of access provided above, and in particular with the fees it expects to pay.

130. The response to this question has been submitted in confidence.

## Technical quality

### 19. Division of multiplex capacity

Show, by means of a pair of clearly-labelled tables, the proposed division of the available multiplex capacity into digital sound programme services and other services during all time periods. The tables should depict the proportion of the total available capacity (in kbits/sec) which it is proposed to allocate individually to each of the digital sound programme services listed in response to Q.11, plus any capacity reserved for expansion, inclusive of any ancillary services. It should also show the total proportion of the available multiplex capacity which it is proposed to allocate to digital additional services and television licensable content services. Please also indicate what proportion of these services will be programme-related. One of the tables should refer to the capacity units taken by each service (i.e. inclusive of capacity used for error protection), and the other table should refer to the bitrate net of error protection capacity, together with the associated protection level (1 to 3) which it is proposed to use, in accordance with EN 300 401. The tables should make clear which of the coding standards the applicant proposes adopting for each sound programme service (i.e. which will be broadcast using DAB and which using DAB+).

131. The following table details the division of multiplex capacity during all time periods. A number of the service providers have indicated that they intend to use a proportion of the DLS capacity for commercial messages and, therefore, the table includes the maximum percentage allocation of the multiplex for these Digital Additional Services assuming all of the DLS capacity is used for this purpose.

Service	Operating times	Capacity units occupied (Inclusive of error protection)	Percentage of total multiplex capacity	Maximum proportion of multiplex capacity that is allocated to Digital Additional Services
Heart	00:00-23:59	84	9.7%	0.1%
Smooth	00:00-23:59	84	9.7%	0.1%
Capital	00:00-23:59	84	9.7%	0.1%
Bay Radio	00:00-23:59	84	9.7%	0.1%
Fun Kids Junior (DAB+)	00:00-23:59	24	2.8%	0.1%
Chris Country (DAB+)	00:00-23:59	24	2.8%	0.1%
CandoFM (DAB+)	00:00-23:59	18	2.1%	0.1%
Bay Trust Radio (DAB+)	00:00-23:59	18	2.1%	0.1%
BBC Radio Cumbria	00:00-23:59	96	11.1%	0.1%
		<b>516</b>	<b>59.7%</b>	

132. The following table details the division of multiplex capacity by bitrate net of error protection.

Service	Service Capacity net of Error Protection (kbits/sec)	Percentage of total multiplex capacity	ETSI 300 401 Error Protection Level
Heart	112	9.7%	UEP3
Smooth	112	9.7%	UEP3
Capital	112	9.7%	UEP3
Bay Radio	112	9.7%	UEP3
Fun Kids Junior (DAB+)	32	2.8%	EEP3A
Chris Country (DAB+)	32	2.8%	EEP3A
CandoFM (DAB+)	24	2.1%	EEP3A
Bay Trust Radio (DAB+)	24	2.1%	EEP3A
BBC Radio Cumbria	128	11.1%	UEP3
	<b>688</b>	<b>59.7%</b>	

## 20. Basis of allocation of multiplex capacity

On what basis have technical decisions on the allocation of multiplex capacity to each of the proposed digital sound programme services been made? How has the balance been determined between the number of services to be accommodated and the audio quality and robustness of reception which each will enjoy?

133. In allocating capacity between services, we have taken the following factors into account:

- A need to provide a reasonable level of sound quality
- To ensure robustness of reception
- The wishes of individual service providers
- The reserved capacity of the BBC

134. Our aim is to provide opportunities for any service provider – large or small, commercial or community – to broadcast. We have therefore chosen to run a multiplex that offers both DAB and DAB+ technology enabling all services to broadcast in stereo at low cost.

135. We confirm that the decisions on bit rate are those of each service provider.

136. We have chosen error protection levels of UEP3 and EEP3A as they have been shown through widespread experience to give a good balance between CU allocation on the multiplex and robust reception.

## 21. Audio characteristics

For each local digital sound programme service proposed to be provided, state whether it will be broadcast in 'stereo' or 'mono', and whether it will operate at 'full-rate coding' or 'half-rate coding'. The response to this question should be consistent with the proposed division of multiplex capacity set out in response to Q.19

Service	Stereo / Mono	Coding
Heart	Stereo	Full Rate
Smooth	Stereo	Full Rate
Capital	Stereo	Full Rate
Bay Radio	Stereo	Full Rate
Fun Kids Junior	Stereo	Full Rate
Chris Country	Stereo	Full Rate
CandoFM	Stereo	Full Rate
Bay Trust Radio	Stereo	Full Rate
BBC Cumbria	Stereo	Full Rate

## Declaration

Applicants are required to conclude their submission by making the following declaration:

I hereby apply for and on behalf of MuxCo Cumbria Ltd (the "Company") to the Office of Communications ("Ofcom") for the Local Radio Multiplex Licence for Morecambe Bay (as specified in Ofcom's Notice dated 11 June 2019) in order to provide the local radio multiplex service proposed in this application. I confirm that the appropriate payment has been submitted for this application.

I confirm that the appropriate payment has been submitted for this application. I further confirm that the Company consents to Ofcom publishing this application on its website or otherwise disclosing this application to any person, together with the Company's responses to any request by Ofcom for the Company to furnish additional information about its proposal. This consent does not extend to any part of this application or such responses that the Company has requested that Ofcom should keep confidential by including such information in a separate annex (or other agreed form) that is clearly marked 'confidential'.

I declare that the information given by the Company in this application form is accurate and up-to date to the best of my and the Company's knowledge and that any matters which might influence Ofcom's judgement as to whether the directors and substantial shareholders involved in the application are fit and proper persons to participate in a radio licence have been made known to Ofcom.

I further declare and warrant that the Company is not a disqualified person within the meaning of that expression as defined in Part II of Schedule 2 to the Broadcasting Act 1990 or as a result of a disqualification order under section 145 of the Broadcasting Act 1996, and that having made all reasonable enquiries neither the Company nor any person by which the Company is controlled will, as a result of this application, be in breach of any other requirement of Schedule 2 to the 1990 Act as amended.

Applicant Signature:

A handwritten signature in blue ink, appearing to read "G. Watson", is written over a light blue horizontal line.

Name: Gregory Watson

Position: Director

Date: 10 September 2019