

SUBJECT TO CONTRACT

**Reference Offer for the provision of
Transmission Services
in respect of
Layer 9 in a Triple Multiplex Environment
in respect of
Ofcom's recent award of a licence in the frequency
band 600 MHz**



Version 1

Publication Date: 14 December 2011

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This Reference Offer is issued by Arqiva Limited ("Arqiva") in accordance with a direction under paragraph 10.4.1 of the Undertakings to the Competition Commission of 1 September 2008 (the "Undertakings") in respect of a spectrum auction as described in a letter from Ofcom dated 15 September 2011 (the "Ofcom Direction").

This Reference Offer sets out the terms and conditions and charges on which Arqiva is willing to provide Transmission Services (as such term is defined in the Undertakings) in respect of Layer 9 in a Triple Multiplex Environment as described in the Ofcom Direction.

This Reference Offer is subject to the Reference Offer Terms and Conditions set out herein, and the defined terms used in this Reference Offer can be found at Schedule 1 of the Reference Offer Terms and Conditions.

The specification and prices in this Reference Offer are current at 14 December 2011 and valid until 14 March 2012, after which time they will be revalidated by Arqiva. A copy of this Reference Offer, as updated from time to time, will be placed on Arqiva's website: www.arqiva.com (or any replacement or successor website). A copy has been provided to the Adjudicator and to Ofcom.

Please note that prospective customers may request an alternative specification pursuant to paragraph 10.7 of the Undertakings subject to the process set out in that paragraph.

In connection with this Reference Offer, Arqiva is also issuing a Reference Offer Guide Book dated 14 December 2011, a copy of which can be found on Arqiva's website: www.arqiva.com.

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DATED _____ 201[]

ARQIVA LIMITED

and

[]

**600 MHz DTT TRANSMISSION SERVICES
AGREEMENT**

in respect of

Layer 9 in a Triple Multiplex Environment

The logo for Arqiva, featuring the word "arqiva" in a lowercase, red, sans-serif font. The letter 'q' has a distinctive flourish that extends downwards and to the right.

Legal Affairs
Arqiva Limited
Crawley Court
Winchester
Hampshire
SO21 2QA

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THIS AGREEMENT dated 201[] is made between:

- (1) **ARQIVA LIMITED** of Crawley Court, Winchester, Hampshire, SO21 2QA with registered number 02487597 ("**Arqiva**"); and
- (2) [] of [] with registered number [] (the "**Customer**").

WHEREAS:

- (A) Pursuant to the auction of the 600 MHz spectrum held by Ofcom on [], the Customer holds a Multiplex Licence.
- (B) These Reference Offer Terms and Conditions and the other documents comprising the Agreement (as defined herein) have been prepared by Arqiva in accordance with the Ofcom Direction.
- (C) The Customer requires, and Arqiva is willing to provide to the Customer, the Transmission Service on the terms and conditions set out in this Agreement.

TERMS AGREED:

1. DEFINITIONS AND INTERPRETATION

- 1.1 Capitalised terms shall have the meaning ascribed to them in Schedule 1 (Defined Terms).
- 1.2 Where the context so admits or requires, words denoting the singular include the plural and vice versa and words denoting any gender include all genders.
- 1.3 Clause headings are purely for ease of reference and do not form part of or affect the interpretation of this Agreement.
- 1.4 Unless otherwise stated, references to Clauses and Schedules are to clauses of and schedules to this Agreement, and references to parts and paragraphs are to parts of and paragraphs of a Schedule to this Agreement.
- 1.5 References to each party herein include references to its successors in title, permitted assigns and novatees.
- 1.6 All references to "include" and "including" shall be construed to mean "include without limitation" and "including without limitation" respectively.
- 1.7 All references to a statute or statutory provision include any consolidation or re-enactment, modification or replacement of the same, any statute or statutory provision of which it is a consolidation, re-enactment, modification or replacement and any subordinate legislation in force under any of the same from time to time.
- 1.8 In the event of any inconsistency in this Agreement between any Clause and any term set out in any Schedule, the Clause shall prevail over the term in the Schedule to the extent of any inconsistency.

2. CONDITIONS PRECEDENT

- 2.1 This Clause 2 and Clauses 1, 21, 22, 23, 24, and 25 shall come into effect on the Execution Date.
- 2.2 Subject to Clause 2.1, the following are conditions precedent to the coming into full force and effect of this Agreement:

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- (a) where there are any 600 MHz DTT Multiplex Licensees other than the Customer, all such 600 MHz DTT Multiplex Licensees entering into a DTT Transmission Services Agreement with Arqiva for the 600 MHz Transmission Programme;
 - (b) the Guarantor entering into the Guarantee;
 - (c) in relation to the Guarantee, Arqiva receiving a written legal opinion in the relevant jurisdiction for the benefit of Arqiva in terms which are satisfactory to Arqiva as to the validity and enforceability of the Guarantee;
 - (d) where there are any 600 MHz DTT Multiplex Licensees other than the Customer, the guarantor(s) of the relevant DTT Transmission Services Agreement(s) entering into their respective guarantee(s); and
 - (e) where there are any 600 MHz DTT Multiplex Licensees other than the Customer, Arqiva receiving written legal opinion(s) in the relevant jurisdiction(s) for the benefit of Arqiva in terms which are satisfactory to Arqiva as to the validity and enforceability of the respective guarantee(s).
- 2.3 These conditions precedent may be waived by Arqiva in whole or part at any time by written notice to the Customer.
- 2.4 As soon as reasonably practical following the satisfaction or waiver of the conditions precedent Arqiva shall give notice of the same to the Customer, and the date of such notice shall be the "Satisfaction Date".
- 2.5 This Agreement shall come into full force and effect on the Satisfaction Date.
- 2.6 If the conditions precedent have not been satisfied or waived by 31 March 2013, Arqiva may: (i) extend the period for satisfaction of the relevant condition(s) precedent by giving written notice to the Customer; or (ii) terminate this Agreement by giving written notice to the Customer.
- 2.7 Subject to Clause 2.9, if this Agreement is terminated by Arqiva under Clause 2.6, neither party shall have any further obligations under this Agreement.
- 2.8 By 30 November 2012 (which may be prior to the Satisfaction Date), Arqiva will require the Customer to enter into:
- (a) an Advance Design Agreement to cover Arqiva's costs for design work; and
 - (b) an Advance Equipment Procurement Agreement to cover Arqiva's costs for equipment orders,

in each case in connection with the proposed 600 MHz Transmission Programme. If the provisions of this Clause 2.8 (or equivalent) are not complied with by the Customer or any of the other 600 MHz DTT Multiplex Licensees, this will constitute an Exceptional Risk and Arqiva shall be entitled to set reasonable revised Target Service Start Dates and to adjust the Transmission Fee under the Change Control Procedure.

- 2.9 For the avoidance of doubt, the termination of this Agreement by Arqiva under Clause 2.6 shall not affect the validity of any Advance Design Agreement or any Advance Equipment Procurement Agreement entered into pursuant to Clause 2.8.

3. NETWORK ACCESS

Subject to the remaining provisions of this Agreement, in order to provide the Transmission Service to the Customer, Arqiva shall procure the necessary and appropriate Network Access in accordance with the terms of this Agreement.

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4. THE SYSTEM

4.1 General

Subject to Clause 17.5, the System and Equipment will be owned by, and shall be and remain the exclusive property of, Arqiva throughout the Term and thereafter. So long as this Agreement remains in force, Arqiva shall ensure that the System is operated, installed and maintained for the provision of the Transmission Service in accordance with the terms of this Agreement. All Equipment shall be and remain Arqiva's insurable risk throughout the Term.

4.2 The Build Project

- (a) The Customer shall provide all of the information and submit all of the documents required and shall comply with all of its applicable obligations in Schedule 20.
- (b) Subject to Clause 4.2(i), Arqiva shall procure the performance of the System specified in Schedule 6 in accordance with the dates outlined in Schedule 3 and with all reasonable care and skill and to the standards expected of competent and experienced builders of broadcasting systems using at all times suitably skilled personnel in accordance with prevailing Laws and shall, subject to Clause 4.2(i), complete installation of the System at each of the Stations by the relevant Target Service Start Date.
- (c) Arqiva shall procure performance of all requisite tests in accordance with the Acceptance Testing Plan agreed by the parties pursuant to Schedule 15, to verify that installation of the System at each Station has been duly completed. Arqiva shall then confirm to the Customer in writing whether the System has satisfied the relevant tests at each Station. The Customer shall not take issue with any notice from Arqiva to the effect that installation of the System at the Station has been duly completed unless the installation of the System has not been duly completed in accordance with the Acceptance Testing Plan, in which event it shall identify its concerns by notice in writing to Arqiva. If the parties are unable to agree whether any final testing has been satisfactorily completed, the matter shall be referred for determination by an independent expert appointed in accordance with the procedure set out in Clause 24.3.
- (d) Installation of the System at any Station shall be treated as having been completed once the Station and relevant Equipment are capable of operating in accordance with the standards required under this Agreement, as demonstrated by the tests to be carried out in accordance with Clause 4.2(c), and Arqiva has notified the Customer accordingly.
- (e) To the extent that the Customer is required to give its approval of or agreement to any element of the Build Project, the Customer shall respond as soon as possible. For the avoidance of doubt, Clause 13.5 shall apply where the Customer does not comply with its obligations in this Clause 4.2(e). The Customer shall meet regularly with Arqiva and other parties as necessary at meetings convened by Arqiva to co-ordinate activities to allow the 600 MHz Transmission Programme to progress as required.
- (f) Arqiva shall use reasonable endeavours to obtain all the Consents and the Customer shall give Arqiva such assistance in obtaining the Consents as Arqiva shall reasonably request.
- (g) The Customer acknowledges that international frequency clearances, including agreement to transitional restrictions, may be required for all or certain Stations. In the event that it appears likely that any such clearances will not be obtained in sufficient time to complete installation of the System at any Station by the applicable Target Service Start Date, the Customer shall inform Arqiva immediately

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and the parties will consult and agree alternative, later Target Service Start Dates with respect to the applicable Stations (and any disagreement between the parties in this respect shall be referred to the expert in accordance with Clause 24.3). If international frequency clearance in respect of transmission from any Station is refused but there is a viable alternative transmitting station in the same geographical area which the parties agree to adopt as a Station in substitution for the original, then such substitution shall be effected, and any additional charges levied, pursuant to the Change Control Procedure. However, if no such substitution is made, while Arqiva shall divert to another Station any Equipment that it is reasonably able to reuse, the Customer shall reimburse Arqiva the cost of any Equipment that cannot reasonably be put to such alternative use together with any other costs that Arqiva has incurred in connection with the Build Project in accordance with this Agreement at the Station in respect of which international clearance has been refused. In turn, the Transmission Fee shall be reduced proportionately and the application of this Agreement to the affected Station(s) shall be considered terminated.

- (h) Each party shall appoint an appropriate member of its staff as principal contact with respect to the Build Project. The parties' respective appointees shall meet on a regular basis, but not less than once in each calendar quarter, during the Term to monitor progress and Arqiva's representative shall provide to the Customer's representative at each such meeting an updated project plan detailing progress since the previous meeting. Each party may replace its appointee at any time on prior written notice to the other party.
- (i) Arqiva shall not be liable for any failure to complete installation of the System at any Station by the applicable Target Service Start Date to the extent that: (i) Clause 13.5 applies; or (ii) such failure results from an Exceptional Risk.

4.3 Liquidated Damages

- (a) Subject to the remaining provisions of this Clause 4.3 and Schedule 16, if, in relation to any Station, Arqiva is unable to provide the Transmission Service on the relevant Target Service Start Date, it shall, from the relevant Target Service Start Date, incur a liability to pay Liquidated Damages to the Customer in respect of the period of delay and until the Actual Service Start Date in respect of such Station. As set out in Schedule 16, no Liquidated Damages are payable in respect of Sandy Heath Station, Divis Station or Presely Station until the date which is twelve (12) months after the relevant Target Service Start Date.
- (b) Where, following the Power Test Date, the Antenna System at a Station can be used operationally but has a measured Antenna pattern which is not materially different from that set out in the Antenna Design Specification, Arqiva shall not be liable to pay liquidated damages. In the event that it is agreed that the measured Antenna pattern requires modification, but the Antenna System can be used operationally, Arqiva shall use reasonable endeavours to rectify the situation as soon as possible.
- (c) For the avoidance of doubt, Arqiva shall have no liability to pay Liquidated Damages pursuant to Clause 4.3(a) in the circumstances described in Clause 4.2(i).
- (d) The Customer acknowledges that any liability of Arqiva to pay Liquidated Damages under this Clause 4.3 that may arise shall represent the Customer's sole and exclusive financial remedy in respect of Arqiva's failure to provide the Transmission Service on the relevant Target Service Start Date at the applicable Station.
- (e) The parties agree and acknowledge that the Liquidated Damages payable pursuant to this Clause 4.3 represent a genuine pre-estimate of the loss likely to be incurred

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by the Customer as a direct consequence of any delay in achieving the Target Service Start Date at any Station.

- (f) Where Arqiva is not able to meet a Target Service Start Date as a result of any of the circumstances described in Clause 4.2(i), Arqiva shall be entitled to set a reasonable revised Target Service Start Date under the Change Control Procedure.

5. THE TRANSMISSION SERVICE

5.1 Authority To Provide the Transmission Service

- (a) Arqiva warrants that, in relation to each Station, from the Actual Service Start Date and for the remainder of the Term, it shall have the Licences and all other licences, consents, authorities or dispensations which are necessary for it to provide the Transmission Service in respect of such Station and it shall during such period comply the terms of such licences, consents, authorities and dispensations in all respects.
- (b) Arqiva shall comply with the terms of any WTA Licence(s) from time to time issued to the Customer and applicable to Arqiva's provision of the Transmission Service and shall not by act or omission do anything which would place the Customer in breach of such WTA Licences, in each case to the extent that the Customer discloses (or procures the disclosure of) such WTA Licences to Arqiva. The Customer shall consult with Arqiva on any proposed changes to the terms of the WTA Licences and any Changes required as a result of such changes to the terms of the WTA Licences shall be implemented pursuant to the Change Control Procedure.

5.2 Transmission Service

Subject to the terms and conditions of this Agreement, on and from the Actual Service Start Date in respect of each Station, Arqiva shall provide the Transmission Service.

5.3 Total Time of Service Availability

- (a) From the Actual Service Start Date at each Station, Arqiva shall use reasonable endeavours to provide to the Customer the Transmission Service using the System, comprising the transmission of the fully multiplexed Customer Signals delivered by the Customer for 100% of Regular Hours albeit that Arqiva shall not be in breach of this Agreement if it fails to achieve such target, provided that the Transmission Service meets the Total Time of Service Availability. In this context, the Customer acknowledges that, subject to Clause 10.2, in the event of a failure by Arqiva to achieve the Total Time of Service Availability, Arqiva's liability to pay service credits to the Customer under Clause 10.1 shall represent the Customer's sole and exclusive financial remedy in respect of such failure.
- (b) In this context, the Customer acknowledges that 100% availability cannot be assured and accepts that Arqiva's investment in and provision of the System shall not be required to be greater than that which is reasonably needed to achieve transmission of the Customer Signals for the Total Time of Service Availability.
- (c) The parties acknowledge that, save for the Transmission Service to be provided by Arqiva, the Customer shall procure the provision of all elements of its overall transmission solution including the delivery of Customer Signals in accordance with Clause 6.2(a), multiplexing, distribution, central service information (where applicable - as defined in EN300 468: DVB Specification for Service Information) and logical channel number services that may be required. Without prejudice to Clause 13.5, Arqiva's obligations to provide the Transmission Service as provided

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in this Agreement shall apply only to the extent that the Customer complies with the first sentence of this Clause 5.3(c).

5.4 Service Standards

Arqiva warrants and undertakes that, on and from the Actual Service Start Date in respect of each Station, the Transmission Service will be provided in a competent and professional manner to the standards reasonably expected of a competent and experienced provider of transmission services in the United Kingdom and with all reasonable skill and care using at all times suitable skilled personnel and in accordance with the Licences and any other prevailing Laws. Without prejudice to the foregoing, Arqiva shall ensure that, on and from the Actual Service Start Date in respect of each Station, the System complies in all material respects with the System Specification. In the event of any conflict or inconsistency between the specifications in any WTA Licence and the System Specification, the specifications in the relevant WTA Licence shall prevail (to the extent that the Customer discloses (or procures the disclosure of) such specifications to Arqiva) and Arqiva shall notify the Customer of any such conflict or inconsistency. Arqiva acknowledges that the aforesaid obligations continue throughout the Term.

5.5 Substitution of Station/Equipment and Movement

- (a) Subject to Clause 4.2(g), Arqiva may substitute, on a permanent or otherwise basis, any Station (after consultation with the Customer) or any Equipment (without consultation with the Customer) (collectively "relevant item"). Arqiva shall ensure that taken as a whole the performance of any substitute relevant item shall be broadly equivalent to and in any event not result in a deterioration of service from the service that had been previously available or result in a reduction in the availability of the Customer Signals to the public, (save for any deteriorations or reductions of a *de minimis* nature), and, without prejudice to the generality of the foregoing, shall not cause any Station to transmit the Customer Signals at an ERP outside the parameters specified in the System Specification.
- (b) Arqiva may at any time move the Antenna or other technical Equipment (including the Exclusive Contracted Equipment) at the Station or structure located on it. Where practicable Arqiva shall give reasonable prior notice to the Customer of any such movement. Arqiva shall ensure that taken as a whole the performance of the Antenna and/or the technical Equipment (as applicable), once moved, shall be broadly equivalent and in any event not result in a material deterioration of the Transmission Service.

5.6 Loss of Network Access Licence

The Customer acknowledges that Arqiva is only a licensee or tenant of some Sites and that, if the owner of any Site wishes to dispose of it or in any other way terminate Arqiva's possession of it, Arqiva's licence or lease may be terminated. In these circumstances, Arqiva shall seek to procure the provision of a suitable substitute for any Station or Equipment used from or on the relevant Site and Arqiva shall be entitled to pass on to the Customer: (a) the costs of decommissioning the former Site; and (b) the costs of procuring and bringing into service the substitute Station subject to agreeing the same under the Change Control Procedure. If Arqiva has any Site licence or tenancy terminated as contemplated by this Clause 5.6, and is unable to locate a substitute Site before such termination becomes effective, this Agreement shall terminate insofar as it relates to the affected Station and the Transmission Fee shall be reduced on a pro rata costs basis.

5.7 Technology Fit for Purpose

Arqiva shall ensure that the Equipment is provided and maintained so as to enable it to provide the Service in accordance with the Agreement.

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6. CUSTOMER OBLIGATIONS AND RESTRICTIONS

- 6.1 The Customer shall not be permitted to visit any Site or to access any Station except with Arqiva's prior written consent and subject to Arqiva's supervision, which shall be chargeable pursuant to Clause 9.8. Such access shall be subject to the rules notified to the Customer's representative by Arqiva which the Customer shall procure are observed by the Customer's representative at all times. In any event the Customer shall indemnify and keep indemnified Arqiva from and against all claims, costs (including, without limitation, legal costs), damages and expenses awarded against Arqiva or agreed in any settlement resulting from the acts or omissions of any of the Customer's agents, employees or contractors on any Site.
- 6.2 The Customer shall be responsible for:
- (a) procuring that the Customer Signals are delivered, throughout the Term, to each of the MTS Insertion Points and in accordance with the technical standards contained in the Multiplex Licence and to the technical standards set forth in Schedule 8;
 - (b) throughout the Term, obtaining, maintaining and complying with the Multiplex Licence and any other licences required to be held by the Customer that are relevant to this Agreement. The Customer shall also throughout the Term be responsible for procuring that the Content Providers obtain, maintain and comply with any licences required to be held by the Content Providers that are relevant to this Agreement;
 - (c) procuring permission from Ofcom in respect of the transmission of the Customer Signals for test purposes prior to Target Service Start Dates as reasonably required by Arqiva;
 - (d) providing Arqiva with all reasonable cooperation to facilitate Arqiva's efficient discharge of its obligations under this Agreement and, in particular, providing Arqiva with accurate information in relation to matters that Arqiva reasonably considers pertinent to its provision of the Transmission Service from time to time.
- 6.3 For the avoidance of doubt, the provisions of this Clause 6 are in addition to, and without prejudice to, the Customer's obligations under any other provisions of this Agreement and Clause 13.5 shall apply in the event that the Customer does not procure any of the matters set out in Clause 6.2(a) to (d).

7. MONITORING; MAINTENANCE AND PLANNED WORKS

7.1 Monitoring

Arqiva shall provide status monitoring, fault diagnosis and remote control of the Equipment and the Transmission Service, through the SMC, at each Station as more particularly described in Schedule 9. For the avoidance of doubt, Arqiva will not monitor the Customer Signals or any transmission characteristics of any Customer Signals.

7.2 Maintenance Services

Subject to the remainder of this Clause 7, Arqiva shall, in accordance with and subject to the terms and conditions set out in this Agreement:

- (a) ensure that on and from the Actual Service Start Date at each Station and during the period of this Agreement it has or it shall procure the provision of such facilities, spares and maintenance services as is necessary to enable Arqiva to provide the Transmission Service; and
- (b) plan and carry out maintenance necessary to provide the Transmission Service.

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7.3 Urgent Maintenance

Without prejudice to Clause 7.4, Arqiva may at any time interrupt the Transmission Service to carry out maintenance of or other work (collectively "work") on any Equipment that it reasonably regards as urgent or essential PROVIDED THAT if there is no reasonable likelihood that the failure to carry out any such work will materially affect services provided to any third parties, such work will be only performed at times and for estimated durations approved by the Customer and in any event so as to minimise any interruptions or disruption to the Transmission Service. If the Customer does not approve any Arqiva request to interrupt the Transmission Service to perform such work, Arqiva reserves the right to carry out and make additional reasonable charges for any corrective maintenance that subsequently becomes necessary and Arqiva accepts no liability whether by way of service credits or otherwise arising from the Customer failing to give or delaying in the giving of its approval in such circumstances.

7.4 Routine Maintenance

To the extent that the Transmission Service is provided using Equipment or facilities which are also used for the benefit of third parties (whether by Arqiva or another person) Arqiva may interrupt, or permit the interruption of, the Transmission Service for such work to be performed as is required either to ensure that the said Equipment and facilities are maintained in reasonable repair and condition or to enable new or replacement equipment safely to be installed. Arqiva shall consult with and give the Customer reasonable advance notice of such maintenance (usually not less than seven (7) days), agree estimated timing and duration and perform the work during periods when the transmission priority is low, paying due regard to any equivalent obligations owed by Arqiva to other users of the equipment and facilities. Where seven (7) days' notice is not practicable, Arqiva shall give notice to the Customer as soon as practicable.

7.5 Maintenance from a Site

The Customer acknowledges and accepts that Arqiva may be required to interrupt the Transmission Service provided at and from a Site forthwith in case of emergency, so that safe access may be gained to any Mast or the Equipment at such Site. That said, Arqiva may interrupt such Transmission Service only:

- (a) in the event of any life or property threatening emergency;
- (b) where any interference caused by the Equipment is creating significant degradation to the services of other users of the Site and the degradation still exists after Arqiva has taken all reasonable measures (to the extent possible without interrupting the Transmission Service) to remedy any such interference; or
- (c) where it is required to do so by a Government Authority;

and (wherever possible) Arqiva shall in any event ensure that interruptions occur at an estimated time and for a duration agreed with the Customer beforehand and during periods when transmission priority is low.

7.6 Planned Works

The Customer acknowledges and accepts that Arqiva may interrupt the Transmission Service in order to carry out any planned works of the nature described in paragraph 3 of Schedule 11. Arqiva shall consult with and give the Customer reasonable advance notice of such planned works.

8. BREAKDOWNS

8.1 Notification by Arqiva

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Arqiva shall notify the Customer's relevant nominated representative of (i) a Breakdown, (ii) any planned transmission of a Customer Signal with a reduction in power by more than 3dB at a Station for a continuous period exceeding 4 hours as soon as the relevant information is available. Arqiva shall also issue to the Customer a Fault Notice giving details of (a) any Breakdown at a Station lasting for a period of more than 2 minutes and/or (b) the transmission of a Customer Signal with a reduction in power by more than 3dB at a Station for a continuous period exceeding 4 hours (as applicable) in each case as soon as reasonably practicable after the occurrence of the relevant event. Within a reasonable time thereafter (not being more than five Business Days) Arqiva shall present a report to the Customer explaining the reasons for the Breakdown or planned interruption or transmission with reduced power levels.

8.2 Notification by Customer

The Customer shall and/or shall procure that the Content Providers shall (as applicable) notify the SMC by telephone of any Breakdown or other impairment of the System of which it becomes aware as soon as the information is available to the Customer and confirm this as soon as reasonably practicable by issuing a Fault Notice. Moreover, the Customer shall procure that the Multiplex Service Provider and/or the Distribution Service Provider (as applicable) immediately notifies the SMC by telephone or other agreed means of communication of any fault with the Multiplex Service or the Distribution Service (as the case may be) as soon as it becomes aware of the same.

8.3 Response Times

Arqiva shall ensure that any Breakdown or other impairment of the System is repaired as soon as practicable after the time from detection by the SMC or receipt by the SMC of notification of the Breakdown or other impairment of the System. In the case of a Breakdown or other impairment of the System which cannot be dealt with by remote control Arqiva shall use reasonable endeavours to ensure that the time from when the SMC detects or is notified of the Breakdown or other impairment of the System until the time an engineer attends at the site of the Breakdown or other impairment does not exceed the relevant Target Response Time.

8.4 Full Restoration

The restoration of the Customer Signals at a reduced level so as to bring a Breakdown to an end shall not relieve Arqiva of its obligation fully to restore the Customer Signals as soon as practicable thereafter.

8.5 Monthly Report

Arqiva shall provide to the Customer a monthly report on performance, such report to include a summary of achievement of agreed technical performance parameters together with details of any Breakdowns and other impairments and actual response times in relation thereto.

8.6 Breakdowns Caused by Customer Signals

Without prejudice to Clause 19, the Customer shall hold Arqiva harmless from any actual loss and/or expense incurred by Arqiva as a consequence of any time spent by Arqiva or its sub-contractors in investigating apparent Breakdowns or other faults arising from the failure of the Customer or the Multiplex Provider or the Distribution Service Provider to deliver the Customer Signals.

9. CHARGES AND PAYMENT

9.1 Subject to the remainder of this Clause 9, as consideration for Arqiva's provision of the Transmission Service, the Customer shall pay to Arqiva the Transmission Fee. The Transmission Fee shall become payable in respect of each Station from the Actual Service

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Start Date applicable to such Station in accordance with the ramp-up based on a revenue phasing profile which reflects the population coverage weightings for the Stations set out in Table 4 of Schedule 12. The Transmission Fee is subject to adjustments under a number of cost incentive mechanisms as set out in Schedule 4.

9.2 Indexation

- (a) Until the Actual Service Start Date for the last Station has occurred the Transmission Fee shall be adjusted by a percentage equal to the percentage increase in RPI.
- (b) Once the Actual Service Start Date has occurred for the last Station, the Transmission Fee shall be adjusted by a percentage equal to the percentage increase in RPI minus 1%.
- (c) The percentage increase shall be calculated by comparing the RPI published in the September preceding the Year for which the Transmission Fee is being reviewed, with the RPI published twelve months before the September immediately preceding the Year for which the Transmission Fee is being reviewed and expressing the difference as a percentage of the first (i.e. first published) of such RPIs and (where applicable) then subtracting one percentage point. If any such number is a negative number, it shall be treated as zero for the purposes of the indexation mechanisms set out in this Clause 9.2. Any percentage increase in RPI that is required to be calculated under this Agreement shall be calculated to two decimal places and conventional rounding shall apply. (By way of illustration only, to calculate the indexation for the Transmission Fee for the Year commencing 1 November 2011, the relevant increase in RPI is obtained by comparing the RPI for September 2010 and the RPI for September 2011 and expressing the increase between these two values as a percentage increase of the RPI for September 2010 and (where applicable) then subtracting one percentage point.)

9.3 With respect to each Year after the first, Arqiva shall notify the Customer of the Transmission Fee for that Year as soon as reasonably practicable after it has been determined. As soon as it becomes aware that the Actual Service Start Date for any Station shall be later than the Target Service Start Date, Arqiva will inform the Customer and notify the Customer of the resulting changes to the Transmission Fee for that Year.

9.4 The Customer shall pay the Transmission Fee to Arqiva each Year in twelve monthly instalments in advance on the first Business Day of the month, which shall constitute the Due Date. Payment of the Transmission Fee shall be effected by banker's direct debit. All invoices hereunder shall be raised in, and all debts due hereunder shall be settled in, GB pounds sterling. If the United Kingdom becomes a participating member state for the purposes of European Monetary Union and the Euro accordingly becomes the lawful currency of the United Kingdom, then:

- (a) that shall not affect the validity of this Agreement or the rights and obligations of the parties hereunder, nor shall it give either party the right to alter or terminate the Agreement unilaterally; and
- (b) with effect from the date on which it occurs, any amount referred to in this Agreement in GB pounds sterling shall be redenominated in Euros at the rate and in the manner determined by the relevant legislation.

9.5 Except as otherwise provided for under this Agreement, all charges of Arqiva hereunder shall be payable within 28 days of the date of the relevant invoice, the invoice date being the Due Date for such charges.

9.6 Arqiva shall be entitled to adjust the Transmission Fee (including, for the avoidance of doubt, any capital expenditure or operating expenditure element of the same) in accordance with the

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Change Control Procedure to take account of the occurrence of any of the following: (i) any change in the Baseline Specification; and/or (ii) any Exceptional Risk.

- 9.7 All fees and charges referred to in this Agreement are exclusive of Value Added Tax and any other tax or duty which shall, if applicable, be payable by the Customer at the rate and in the manner from time to time prescribed by Law.
- 9.8 Arqiva's charges for any work to be performed under any provision of this Agreement which expressly cross-refers to this Clause, and its charges for any work outside the scope of the Transmission Service and the Build Project, shall be calculated by reference to Arqiva's prevailing rates of charge, as amended from time to time (unless agreed otherwise by the parties in writing).
- 9.9 The Customer shall promptly reimburse to Arqiva the annual cost of holding and renewing any WTA Licence or similar licences that Arqiva is required to hold in connection with this Agreement, where the same are required to be held by Arqiva pursuant to the terms of this Agreement.
- 9.10 If the Customer fails to pay any amount payable by it under this Agreement within twenty-eight (28) days from the Due Date, without prejudice to Arqiva's other remedies:
- (a) the Customer shall be liable for and, on Arqiva's demand from time to time, it shall pay interest on such overdue amount from the Due Date up to the date of actual payment in full whether before or after judgement at the rate of 4% per annum over the base rate of the Bank of England, such interest to accrue from day to day and to be computed on the basis of a year of 365 days for the number of days elapsed; and
 - (b) Arqiva reserves the right to suspend the Transmission Service until the Customer has made payment in full of the outstanding amount (together with any accrued interest). The Customer shall not be relieved of any liability to pay the Transmission Fee in respect of any period during which the provision of the Transmission Service is suspended pursuant to this Clause 9.10(b).
- 9.11 Where any fee or charge is expressed to be payable in respect of a Year, unless otherwise indicated that means a full Year comprising twelve (12) months. Accordingly if this Agreement terminates, in whole or in part, other than at the end of a full twelve (12) month Year, the fee or charge in question shall be prorated on a daily basis to determine the actual amount due in that Year.
- 9.12 At any time during the Term, where Arqiva deems it appropriate in the circumstances, Arqiva may request that the Customer procure a parent company guarantee in favour of Arqiva or provide another form of financial security acceptable to Arqiva. The Customer shall promptly comply with any such request (and a failure to do so shall be deemed a material breach of this Agreement).
- 9.13 Commencing with the first Year in which the Customer is expected to be invoiced for the Transmission Fee, Arqiva shall forecast the Pass-Through Costs likely to be payable by the Customer during that Year ("**Forecast Pass-Through Costs**") on a Station by Station basis. Arqiva shall conduct such forecast and notify the Customer of the Forecast Pass-Through Costs by, at the latest, the end of April prior to the start of the relevant Year.
- (a) The Forecast Pass-Through Costs shall be payable by the Customer in accordance with Clause 9.1.
 - (b) The Customer's share shall be calculated on a Station-by-Station basis, using the following methodology:

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- (i) Arqiva shall first calculate the total amount of Pass-Through Costs (except for any directly attributable Pass-Through Costs) incurred by Arqiva at each Station in respect of the provision of Network Access to all customers at that Arqiva Station;
- (ii) Arqiva shall then determine each customer's share of the total Pass-Through Costs (including the Customer's share) at each Station on a fair and reasonable basis that is reflective of the attributes/criteria that incur/drive these Pass-Through Costs. The Customer's share shall be this amount, plus (i) any directly attributable Pass-Through Costs, and (ii) the total cost of electricity for its Customer Equipment in the relevant period.

In procuring electricity required for the operation of the Equipment, Arqiva shall use all reasonable endeavours to ensure best value for itself and in turn for the Customer.

- (c) As soon as reasonably practical and no later than four (4) months after the end of the relevant Year, the Customer's share of actual Pass-Through Costs for the relevant Year ("**Actual Pass-Through Costs**"), determined in accordance with Clause 9.13.(b) above, will be compared to the Forecast Pass-Through Costs for the relevant Year. Any overpayment or underpayment by the Customer shall be notified in writing by Arqiva. In the event of any overpayment by the Customer, Arqiva shall issue the Customer with a credit note to the value of any overpayment within thirty (30) days, save where no more Charges are due from the Customer to Arqiva, in which case Arqiva shall pay the amount within thirty (30) days. In the event of any underpayment, Arqiva shall issue an invoice to the Customer for this amount, such invoice being payable in accordance with the terms of this Agreement.
- (d) Arqiva shall, on the Customer's written request and subject to payment by the Customer of Arqiva's reasonable incurred costs, provide copies of all documentation evidencing and/or supporting the calculation of the Actual Pass-Through Costs for any Year. Arqiva shall not however, be required to provide copies of such documentation to the Customer where by so doing Arqiva would be in breach of or otherwise contravene confidentiality or contractual commitments with other customers or users of Station Facilities. Under these circumstances Arqiva will ensure that a reputable third party independently validates that the Customer's Pass-Through Costs have been derived and/or calculated in accordance with the methodology agreed between Arqiva and the Customer, and provide confirmation of such independent validation to the Customer on request. The Customer shall not be entitled to request this information more frequently than once per annum. Arqiva shall provide such information promptly and in any event within thirty (30) days, of the Customer's written request.

9.14 In addition to the Transmission Fee and the Pass-Through Costs the Customer shall also be liable to pay for electricity required to provide the Transmission System as further described in Schedule 4.

10. SERVICE CREDITS AND SUPER CREDITS

10.1 Service Credits

- (a) Subject always to Clause 10.1(b), if at the end of any calendar month after the applicable Actual Service Start Date, Arqiva has failed to achieve the Total Time of Service Availability applicable to any Station, Arqiva shall incur a liability to pay service credits to the Customer which shall be calculated by reference to Schedule 12 and payable in accordance with Clause 10.1(d).

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- (b) Subject to Clause 10.2, Arqiva's aggregate liability to pay service credits to the Customer under Clause 10.1(a) shall not exceed, in respect of any Year, 10% of the Transmission Fee excluding Pass-Through Costs payable by the Customer to Arqiva under this Agreement in that Year.
- (c) Subject to Clause 10.2, the Customer acknowledges that any liability of Arqiva that may arise under this Clause 10.1 shall represent the Customer's sole and exclusive financial remedy in respect of Arqiva's failure to meet the Total Time of Service Availability.
- (d) At the end of each Year, the aggregate of any service credits arising during that Year shall be calculated by Arqiva. Any liability of Arqiva to pay service credits to the Customer shall be satisfied by means of an appropriate adjustment to the Customer's payments to Arqiva in the following Year or by means of a direct payment to the Customer in the case of the final Year. Any dispute as to the amount of any service credits due shall be resolved in accordance with Clause 24.3.

10.2 Super Credits

- (a) If Arqiva commits a Persistent Failure:
 - (i) the Customer may submit a Super Credit Notice to Arqiva; and
 - (ii) Arqiva shall have one (1) month following receipt of a valid Super Credit Notice within which to rectify its poor performance as set out in the Rectification Process to the Total Time of Service Availability.
- (b) Where Arqiva fails to rectify its poor performance as required under Clause 10.2(a)(ii) above then the Customer shall be entitled to claim a Super Credit by issuing a Super Credit Claim.
- (c) If the Customer issues a valid Super Credit Claim, Arqiva shall pay the applicable Super Credit within ninety (90) days of receipt of the Super Credit Claim.
- (d) Acceptance of the Super Credit by the Customer shall be conditional upon the Customer waiving its right to terminate in respect of the relevant Persistent Failure but shall be without prejudice to any right to terminate which may arise thereafter under this Agreement, provided that performance issues that have occurred prior to the date on which the liability to pay the Super Credit arose and which contributed to that liability shall be disregarded for the purposes of measuring Arqiva's performance under the relevant contractual mechanisms after that date.
- (e) Any liability of Arqiva to pay Super Credits will be in addition to any other liability of Arqiva for service credits under this Agreement.
- (f) No more than one (1) Super Credit shall be payable by Arqiva in any Year.

11. SUSPENSION

- 11.1 The Customer shall have the right at any time to suspend broadcasting of the Licensed Service (in whole or in part) for any reason and upon receipt of written notification to that effect signed by a director or other nominated signatory of the Customer, Arqiva shall suspend the Transmission Service (in whole or in part) for the period notified by the Customer. Save where such suspension arises from Arqiva's breach of the Licences or any act or default of Arqiva or its employees, agents or subcontractors, the Customer shall remain liable to pay the full Transmission Fee during such period of suspension.

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- 11.2 Arqiva shall have the right at any time to suspend provision of the Transmission Service (in whole or in part) where:
- (a) the Customer is overdue with payment of any instalment of the Transmission Fee more than thirty (30) days after the Due Date, save that, in the event that Arqiva issues a notice in respect of terminating this Agreement under Clause 16.2(a), Arqiva shall not have the right to issue a concurrent suspension notice under this Clause 11.2(a);
 - (b) Arqiva receives directions from any competent authority or is ordered by a court of competent jurisdiction to suspend transmission of the Customer Signals, provided that Arqiva shall give the Customer as much advance notice as it is reasonably able of such suspension to the extent that it is practicable and lawful for it so to do and shall use all reasonable endeavours to minimise its duration and impact;
 - (c) the Customer ceases to hold the Multiplex Licence, WTA Licences or any other licences required to be held by the Customer that are relevant to this Agreement; or
 - (d) the Content Providers cease to hold any licences required to be held by the Content Providers that are relevant to this Agreement,

in each case until the Customer has rectified such matters or until Arqiva has received appropriate directions from a competent authority or court of competent jurisdiction in respect of recommencement of the provision of the Transmission Service (as the case may be), and Arqiva shall not by reason of such suspension of the Transmission Service be in breach of its obligations to the Customer and the Customer shall remain liable to pay the full Transmission Fee during such period of suspension.

- 11.3 The Customer shall indemnify and keep indemnified Arqiva from and against all claims, costs (including, without limitation, legal costs), damages and expenses awarded against Arqiva or agreed in any settlement resulting from any failure by: (i) the Customer to comply with the Multiplex Licence or any other licences required to be held by the Customer that are relevant to this Agreement; or (ii) the Content Providers to comply with any licences required to be held by the Content Providers that are relevant to this Agreement.

12. CHANGE CONTROL PROCEDURE

- 12.1 Except as otherwise expressly provided in this Agreement, if the Customer or Arqiva wishes to make any change to the terms and/or scope of the Transmission Service provided hereunder (including, for the avoidance of doubt, any change whatsoever related to transmission) ("**Change**"), the parties shall follow the Change Control Procedure set out in Schedule 13, and the timing and manner of applying any such change shall be processed pursuant to and in accordance with such Change Control Procedure. Without limitation to the foregoing, any change to the Baseline Specification and any change resulting from the occurrence of an Exceptional Risk shall be dealt with through the Change Control Procedure.
- 12.2 Each of Arqiva and the Customer will nominate a representative who will be responsible for submitting requests for Changes to and receiving such requests from the other party. Approval of any such request by its representative in accordance with the procedure in Schedule 13 shall bind the relative party. The identity of either party's representative may be changed at any time by written notice to the other party.
- 12.3 Arqiva shall notify the Customer in advance of the impact of any such Changes through the Change Control Procedure. If the Customer does not accept the impact of any such Changes (including as to any adjustment to the Transmission Fee), the Customer shall have the right to have the matter referred to an expert pursuant to Clause 24.3.
- 12.4 The parties acknowledge that it may become appropriate for Changes to the technical requirements of the System to be made during the course of or after the Build Project and that

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requests for such Changes, all of which must be in writing, may be generated from several possible sources, including Arqiva, the Customer, Ofcom, DCMS, other 600 MHz DTT Multiplex Licensees or the Content Providers. All requests for such Changes initiated by the Content Providers must be channelled through and be endorsed by the Customer before being submitted to Arqiva pursuant to the Change Control Procedure.

- 12.5 There will be regular technical progress meetings which will be the forum at which requests for Changes to the technical requirements of the System are discussed and, if agreement is reached, jointly endorsed pursuant to the Change Control Procedure. For the avoidance of doubt, save where expressly stated otherwise in Schedule 13, the Customer must approve any changes to fees and timescale, as advised by Arqiva, before Arqiva begins implementation.
- 12.6 The target timescale for processing requests for a Change will be within the timescale specified in the Change Control Procedure (or as otherwise agreed from time to time). It is recognised that minor changes should be processed more quickly but that major changes will be subject to a longer agreed time scale.

13. LIABILITY

- 13.1 Arqiva accepts liability to the Customer only as expressly provided or contemplated in this Clause 13, Clause 10 and Clause 4.3, and otherwise shall have no liability to the Customer under or in connection with this Agreement whether arising in or for breach of contract, tort (including negligence), breach of statutory duty, indemnity or otherwise.
- 13.2 Without prejudice to Clause 13.4, Arqiva's maximum aggregate liability to the Customer arising under or in connection with this Agreement, whether arising in or for breach of contract, tort (including negligence), breach of statutory duty, indemnity or otherwise, in respect of claims relating to any Year shall be limited to the greater of:
- (a) 125% of the Transmission Fee excluding Pass-Through Costs payable by the Customer to Arqiva under this Agreement in respect of that Year; and
 - (b) £2.5 million.

For the avoidance of doubt any amounts payable by Arqiva to the Customer by way of service credits or Super Credits under Clause 10 or Liquidated Damages under Clause 4.3 shall count towards the limits on liability set out in this Clause 13.2.

- 13.3 Arqiva shall not be liable to the Customer under or in connection with this Agreement, or any collateral contract, for any loss of income, loss of actual or anticipated profits, loss of contracts, loss of goodwill or reputation, loss of business, loss of anticipated savings, loss of, damage to or corruption of data, or for any indirect or consequential loss or damage of any kind, in each case howsoever arising, and whether arising in or for breach of contract, tort (including negligence), breach of statutory duty, indemnity or otherwise. Without limitation to the generality of the foregoing, Arqiva hereby excludes all and any liability to compensate the Customer that Arqiva might otherwise incur in respect of: (i) any loss of advertising revenue, subscription fees or pay-per-view fees; and (ii) any third party claims brought against the Customer (including claims brought against the Customer by any Content Provider or any other of its customers).
- 13.4 Nothing in this Clause 13 or otherwise in this Agreement shall exclude or in any way limit either party's liability: (i) for fraud; (ii) for death or personal injury caused by its negligence (including negligence as defined in s. 1 Unfair Contract Terms Act 1977); (iii) for breach of terms regarding title implied by s. 12 Sale of Goods Act 1979 and/or s. 2 Supply of Goods and Services Act 1982; (iv) under the indemnities set out in Clause 15.2 and Clause 15.7 respectively; or (v) to the extent the same may not be excluded or limited as a matter of Law.

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- 13.5 Arqiva shall have no liability to the Customer, and the Customer shall have no right or remedy against Arqiva, for any delay by Arqiva in performing or complying with, or any failure by Arqiva to perform or comply with any obligation under this Agreement, to the extent that such delay or failure is attributable to any act, omission or delay of or by the Customer or any of its employees, agents or contractors (including any breach by the Customer of any obligation under this Agreement or of any licence required to be held by the Customer relevant to this Agreement and/or any failure by the Customer to comply with any of its obligations under Schedule 20).
- 13.6 The exclusions and limitations of liability under this Clause 13 shall have effect in relation both to any liability expressly provided for or contemplated under this Agreement and to any liability arising or incurred by reason of the invalidity or unenforceability, in whole or in part, of any term of this Agreement.
- 13.7 This Agreement sets forth the full extent of Arqiva's obligations and liabilities arising out of or in connection with this Agreement, and there are no conditions, warranties, representations or terms, express or implied, that are binding on Arqiva except as specifically stated in this Agreement. Any condition, warranty, representation or term which might otherwise be implied into or incorporated in this Agreement, whether by statute, common law or otherwise, is hereby expressly excluded.

14. FORCE MAJEURE

- 14.1 Neither party shall be liable for its failure to perform or its delay in performing its obligations for any period or for resulting loss, injury or damage to the extent only that such performance is prevented or directly adversely affected by any of the following events: any act of god, insurrection or civil disorder, war or military operations, national or local emergency, acts or omissions of Government Authority, highway authority or other competent authority, acts or omissions of other 600 MHz DTT Multiplex Licensees, industrial disputes of third parties (excluding the affected party's agents and subcontractors), fire, flood, severe inclement weather or national epidemic or any other cause whether similar or dissimilar outside the affected party's control (each a "**Force Majeure Event**"), all to the extent that these events are beyond the affected party's control and have not occurred as a result of any act or default of the affected party, its employees, agents or subcontractors and provided also that the occurrence of any such Force Majeure Event shall not have the effect of discharging or postponing the affected party's payment obligations or liabilities hereunder. Any party seeking to rely on this Clause shall promptly notify the other in writing. The period of excused non-performance shall be limited to the duration of the applicable Force Majeure Event.

14.2 Termination

- (a) In the event that a Force Majeure Event has prevented Arqiva from providing the Transmission Service in accordance with this Agreement for a period of one hundred and twenty (120) consecutive days at a Station and Arqiva has failed, during such period, to restore the Transmission Service the Customer shall be entitled to terminate this Agreement forthwith upon written notice to Arqiva in respect of such affected Station and the Transmission Fee shall be reduced proportionately (with a pro rata adjustment for the then current Year to reflect the number of days left in the Year).
- (b) In the event that a Force Majeure Event has prevented the Transmission Service from being provided at Stations accounting for 45% or more of UK population coverage, by reference to the population coverage percentages set out in Table 4 in Schedule 12 for a continuous period of 60 consecutive days the Customer shall be entitled to terminate this Agreement in its entirety on written notice to Arqiva.
- (c) If the Customer is prevented from performing its obligations under this Agreement for a continuous period exceeding one hundred and twenty (120) days, Arqiva may by notice in writing to the Customer, immediately terminate this Agreement.

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- (d) In the event of any termination pursuant to this Clause 14.2, the provisions of Clause 17.4 shall apply.

15. INTELLECTUAL PROPERTY

15.1 Licence Of Customer Signal

The Customer hereby grants to Arqiva for the period of transmission of the relevant Customer Signal a non-exclusive royalty free licence (with the right to sub-license to sub-contractors) to transmit the Customer Signals in the United Kingdom for the sole purpose of providing the Transmission Service. The Customer hereby represents that it has or will have all requisite authority to enable it to grant such licence to Arqiva.

15.2 Indemnity regarding Customer Signals

The Customer agrees during this Agreement and thereafter to indemnify and keep indemnified Arqiva from and against all claims, actions, liabilities, losses, damages and expenses (including legal expenses) incurred by Arqiva resulting directly or indirectly from any claims by third parties that any of the Content, the Customer Signals or the transmission in accordance with the terms of this Agreement by Arqiva, or sub-contractors of Arqiva, of any transmitted service signal relating to any Customer Signals:

- (a) is in breach of any duty of confidentiality or privacy;
- (b) infringes any existing or future Intellectual Property Rights;
- (c) is defamatory or obscene;
- (d) infringes any applicable Law or any voluntary codes of conduct in relation to the broadcasting of programmes or provision of data services; or
- (e) causes damage to any viewer's DTT set top box or other DTT reception device.

15.3 Notice and Conduct of Claim

- (a) Arqiva shall notify the Customer as soon as reasonably practicable of any claim from a third party as referred to in Clause 15.2 (a "**Claim**") and, subject to Clause 15.3(b), at the Customer's sole cost, shall provide reasonable assistance in connection with the Claim when requested. Subject to Clause 15.3(b), the Customer shall be entitled to resist, compromise or settle a Claim in the name of Arqiva at the Customer's own expense and to have the sole conduct and control of any appeal, dispute, compromise, settlement or defence of a Claim and of any incidental negotiations and Arqiva shall give the Customer, at the Customer's cost, all reasonable cooperation, access and assistance for the purposes of considering and resisting such Claim and shall not make any admissions or statements prejudicial to the Customer. The Customer shall keep Arqiva reasonably informed and consult with it as to the conduct of the Claim.
- (b) If within ninety (90) days after Arqiva's receipt of notice of any Claim, the Customer fails to take action to defend the same, Arqiva may at the Customer's expense undertake the defence, compromise or settlement of the Claim. Upon the assumption of the defence of the Claim, Arqiva may defend, compromise or settle the Claim as it sees fit provided that Arqiva shall take reasonable steps to monitor and mitigate the fees and costs associated with the same and shall keep the Customer informed of any reasonable settlement proposals made by the claimant and shall not agree any settlement without the Customer's prior written consent (not to be unreasonably withheld or delayed).

15.4 Existing and Future Intellectual Property Rights

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The Customer agrees that any original document, hardware or prototype produced by Arqiva in its performance of the Transmission Service and all Intellectual Property Rights developed or created by Arqiva in the performance of the Transmission Service or any other services hereunder shall vest in and be owned by Arqiva provided that Arqiva shall grant the Customer a licence of such Intellectual Property Rights solely as are required for the exercise of the Customer's rights under this Agreement.

15.5 Intellectual Property Rights in Customer Signals

Nothing in this Agreement shall operate to vest in or transfer to Arqiva any Intellectual Property Rights in the Content or Customer Signals transmitted by Arqiva pursuant to this Agreement and any such rights shall, as between Arqiva and the Customer, vest solely in the Customer.

15.6 Warranty re Operation of Transmission Service

Arqiva warrants that the operation and provision of the Transmission Service per se:

- (a) will not infringe the Intellectual Property Rights of any third party; and
- (b) will not cause physical damage to any viewer's DTT set top box or other DTT reception device, provided always that such box or other device has been designed and tested by the relevant manufacturer to meet the applicable DVB and other relevant standards; and
- (c) will not interfere or otherwise adversely affect the transmission or broadcast of any third party's signals.

15.7 Indemnity regarding Operation of Transmission Service

Subject to the Customer's compliance in all respects with Clause 15.8, Arqiva shall indemnify the Customer against all claims, costs (including reasonable legal costs) damages and expenses incurred by or awarded against the Customer in respect of any breach of the warranty in Clause 15.6.

15.8 Notice and Conduct of Third Party Claim

The Customer shall notify Arqiva in writing as soon as reasonably practicable of any claim from a third party as referred to in Clause 15.7 (a "**Third Party Claim**") and, at Arqiva's sole cost, shall provide all information and assistance in connection with any Third Party Claim as Arqiva may reasonably require. Arqiva shall be entitled to resist, compromise or settle a Third Party Claim in the name of the Customer at Arqiva's own expense and to have the sole conduct and control of any appeal, dispute, compromise, settlement or defence of a Third Party Claim and of any incidental negotiations and the Customer shall give Arqiva, at Arqiva's reasonable cost, all reasonable cooperation, access and assistance for the purposes of considering and resisting such Third Party Claim and shall not make any admissions or statements prejudicial to Arqiva. Arqiva shall keep the Customer fully informed and consult with it as to the conduct of any Third Party Claim.

16. DURATION AND EARLY TERMINATION

16.1 Term

Subject to the remainder of this Clause 16, this Agreement shall come into force on the Execution Date and shall continue thereafter for a fixed term expiring at 24:00 hours on [1 October 2026] whereupon it shall automatically and immediately terminate unless renewed by mutual written agreement of the parties.

16.2 Termination By Arqiva

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Arqiva shall be entitled forthwith on serving a written notice on the Customer to terminate this Agreement immediately (unless otherwise stated below) in whole on any of the following events occurring:

- (a) if the Customer has not paid any amount due within thirty (30) days of the Due Date, provided that, in the event that Arqiva issues a suspension notice under Clause 11.2(a), Arqiva shall not have the right to issue a concurrent termination notice under this Clause 16.2(a);
- (b) if the Customer commits any other material breach of any provision of this Agreement and, where remediable, does not remedy the breach within sixty (60) days of Arqiva notifying the Customer in writing of the breach in question.
- (c) if:
 - (i) the Customer ceases or threatens to cease to trade (either in whole, or as to any part or division involved in the performance of this Agreement);
 - (ii) the Customer is unable or admits inability to pay its debts as they fall due, suspends making payments on any of its debts or, by reason of actual or anticipated financial difficulties, commences negotiations with one or more of its creditors with a view to rescheduling any of its indebtedness or the value of the assets of the Customer is less than its liabilities (taking into account contingent and prospective liabilities) or a moratorium is declared in respect of any indebtedness of the Customer; or
 - (iii) any corporate action, legal proceedings or other procedure or step is taken in relation to:
 - (A) the suspension of payments, a moratorium of any indebtedness, winding-up, dissolution, administration or reorganisation (by way of voluntary arrangement, scheme of arrangement or otherwise) of the Customer other than a solvent liquidation or reorganisation;
 - (B) a composition, compromise, assignment or arrangement with any creditor of the Customer;
 - (C) the appointment of a liquidator (other than in respect of a solvent liquidation), receiver, administrative receiver, administrator, compulsory manager or other similar officer in respect of the Customer or any of its assets; or
 - (D) enforcement of any security over any assets of the Customer, or any expropriation, attachment, sequestration, distress or execution affects any asset the Customer having an aggregate value of £10 million and is not discharged within thirty (30) days,
 - (iv) or any analogous procedure or step is taken in any jurisdiction; or
- (d) if the Multiplex Licence or any other licences required to be held by the Customer that are relevant to this Agreement are: (i) revoked for any reason except in the context of the grant to the Customer of a replacement licence, or (ii) surrendered by the Customer; or (iii) breached by the Customer.

16.3 Termination by Customer For Cause

The Customer shall, without prejudice to its other remedies, be entitled forthwith on serving a written notice on Arqiva to terminate this Agreement immediately in whole on any of the following events occurring:

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- (a) if Arqiva commits a material breach of any provision of this Agreement and, where remediable, does not remedy the breach or otherwise satisfactorily compensate the Customer in respect of such breach within sixty (60) days of the Customer notifying Arqiva in writing of the breach in question;
- (b) if:
 - (i) Arqiva ceases or threatens to cease to trade (either in whole, or as to any part or division involved in the performance of this Agreement);
 - (ii) Arqiva is unable or admits inability to pay its debts as they fall due, suspends making payments on any of its debts or, by reason of actual or anticipated financial difficulties, commences negotiations with one or more of its creditors with a view to rescheduling any of its indebtedness or the value of the assets of Arqiva is less than its liabilities (taking into account contingent and prospective liabilities) or a moratorium is declared in respect of any indebtedness of Arqiva; or
 - (iii) any corporate action, legal proceedings or other procedure or step is taken in relation to:
 - (A) the suspension of payments, a moratorium of any indebtedness, winding-up, dissolution, administration or reorganisation (by way of voluntary arrangement, scheme of arrangement or otherwise) of Arqiva other than a solvent liquidation or reorganisation;
 - (B) a composition, compromise, assignment or arrangement with any creditor of Arqiva;
 - (C) the appointment of a liquidator (other than in respect of a solvent liquidation), receiver, administrative receiver, administrator, compulsory manager or other similar officer in respect of Arqiva or any of its assets; or
 - (D) enforcement of any security over any assets of Arqiva, or any expropriation, attachment, sequestration, distress or execution affects any asset of Arqiva having an aggregate value of £10 million and is not discharged within thirty (30) days,
 - (iv) or any analogous procedure or step is taken in any jurisdiction; or
- (c) if Arqiva ceases to hold any of the Licences.

17. CONSEQUENCES OF TERMINATION

17.1 Return of Property

Upon termination of this Agreement for whatever reason the Customer shall, at Arqiva's request, as soon as reasonably practicable, make available for collection by Arqiva, all of Arqiva's or its agents' or sub-contractors' documents or equipment as are in the Customer's possession or under its control and vice versa.

17.2 Accrued Rights

Any termination or expiry of this Agreement shall be without prejudice to either party's right to recover any sums due to be paid or to any other rights accrued to one party in accordance with this Agreement on or prior to the effective date of such termination.

17.3 Transition Assistance

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If this Agreement expires or is terminated by the Customer under Clause 16.3(a) or 16.3(c) Arqiva shall provide reasonable transition assistance to the Customer upon the Customer's request as set out in Schedule 19 and subject to payment of Arqiva's applicable fees (applying Clause 9.8) at any time prior to or within six (6) months after the expiry or termination of this Agreement.

17.4 Termination Payments

If this Agreement is terminated pursuant to any of Clauses 16.2(a), (b), (c) or (d) or Clause 14.2, the Customer shall pay to Arqiva the termination payment set out in Schedule 22 in accordance with the provisions of that Schedule. The Customer's only liability to Arqiva following a termination of this Agreement pursuant to such Clauses shall be to pay the applicable termination payments pursuant to this Clause 17.4 and Schedule 22 but any such termination shall otherwise be without prejudice to the accrued rights and liabilities of the parties as at the effective date of termination (including, without limitation, the Customer's obligation to pay, and Arqiva's right to recover, any sums due by the Customer under Clause 9 (and otherwise under this Agreement) up to and including the effective date of termination.

17.5 Purchase of Exclusive Contracted Equipment

- (a) The Customer may at any time between six (6) months and eighteen (18) months prior to the date of expiry of this Agreement submit a written request to Arqiva to provide:
 - (i) a detailed inventory of all Exclusive Contracted Equipment, including an indication of the cost of such Exclusive Contracted Equipment (calculated in accordance with the Undertakings) (the "inventory"); and
 - (ii) a plan to facilitate transfer of ownership and control of such Exclusive Contracted Equipment to the Customer or its nominee upon expiry of this Agreement which will include the information set out in Schedule 19 (the "transition plan").
- (b) Arqiva shall consult with the Customer in generating the transition plan and shall provide both the inventory and the transition plan referred to in Clause 17.5(a) to the Customer within three (3) months following receipt of the Customer's written request.
- (c) Following receipt of the information referred to in Clause 17.5(a) by the Customer and, in any event, at least two (2) months prior to the expiry of this Agreement, the Customer may submit to Arqiva a written request to: (i) implement the transition plan; and (ii) transfer all of the Exclusive Contracted Equipment to the Customer (or its nominee).
- (d) Arqiva shall implement this request upon expiry of the Agreement, subject to payment by the Customer of the cost of the Exclusive Contracted Equipment (as notified to the Customer pursuant to Clause 17.5(b)).
- (e) The Customer may also exercise the rights set out in Clauses 17.5(a) to (d) in circumstances where the Customer terminates the Agreement pursuant to Clause 16.3(a) or 16.3(c), subject to the following amendments:
 - (i) within five (5) Business Days following the date of the Customer's notice to terminate, the Customer shall submit a written request to Arqiva to provide the inventory of Exclusive Contracted Equipment referred to in Clause 17.5(a)(i) above and the transition plan referred to in Clause 17.5(a)(ii), receipt of which shall be acknowledged by Arqiva;

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- (ii) Arqiva shall provide the inventory and the transition plan to the Customer within one (1) month following receipt of the Customer's written request pursuant to Clause 17.5(e)(i);
- (iii) the Customer shall submit a written request to Arqiva to: (i) implement the transition plan; and (ii) transfer all of the Exclusive Contracted Equipment to the Customer (or its nominee) no later than six (6) months following receipt of the information pursuant to Clause 17.5(e)(ii);
- (iv) Arqiva shall have one (1) month following receipt of this request in which to implement the request subject to the conditions set out in Clause 17.5(d);
- (v) Until such time as the transition plan is implemented and all of the Exclusive Contracted Equipment is transferred, this Agreement shall continue in full force and effect (save that no liability to pay Super Credits shall accrue following the notice to terminate) and Arqiva shall continue to provide the Transmission Service and the Customer shall continue to pay the Transmission Fee in accordance with the terms of this Agreement.
- (f) In the event that the Customer does not comply within the timescales set out in this Clause 17.5, then the Customer's right to purchase the Exclusive Contracted Equipment shall lapse (and, for the avoidance of doubt, the provisions of Clause 17.5(e)(v) shall not apply).

18. SUB-CONTRACTING OF WORK

Arqiva may sub-contract any of its obligations under this Agreement but shall remain fully liable to the Customer for the failure of any such sub-contractor to perform satisfactorily any obligation of this Agreement which may be sub-contracted to it.

19. EXTRA WORK

If Arqiva incurs costs at the Customer's request and no defect is found or the costs were otherwise needlessly incurred, Arqiva is entitled to full reimbursement from the Customer. Moreover, Arqiva may make separate additional charges for work (to be calculated in accordance with Clause 9.8) carried out by Arqiva as a result of incorrect or inadequate information provided by the Customer or any breach of this Agreement by the Customer requiring Arqiva to operate to different technical criteria.

20. RELIANCE ON INSTRUCTIONS

- 20.1 For communications other than those covered by Clause 23, each party shall be bound by and shall be entitled to rely on any communication whether in writing or by telephone or answer back facsimile process which that party has reasonable cause for believing has been given or made for or on behalf of the other. Each party shall adopt and ratify all such communications notwithstanding any lack of actual authority and will indemnify the other from and against all liabilities, obligations, claims, actions and expenses of any kind imposed on or incurred as a result of reliance on any such communication.
- 20.2 Notwithstanding Clause 20.1, Arqiva shall not act on the instruction or request of the Customer to suspend the Transmission Service or any material element thereof unless confirmed in writing by a director or other nominated signatory of the Customer.

21. CONFIDENTIALITY

- 21.1 Each party undertakes to maintain and procure the maintenance of the confidentiality of Confidential Information of the other party at all times and to keep and procure the keeping of all Confidential Information of the other party secure and protected against theft, damage, loss or unauthorised access, and not at any time, whether during the Term or at any time

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thereafter, without the prior written consent of the disclosing party, directly or indirectly, to use or authorise or permit the use of or disclose, exploit, copy or modify any Confidential Information of the other party, or authorise or permit any third party to do the same, other than for the sole purpose of the performance of its rights and obligations hereunder.

- 21.2 Each party undertakes to disclose Confidential Information of the other party only to those of its officers, employees, agents, contractors, financiers and advisers to whom, and to the extent to which, such disclosure is necessary for the purposes contemplated under this Agreement, and to procure that such officers, employees, agents, contractors financiers and advisers are made aware of and observe the confidentiality obligations in this Clause 21.
- 21.3 Upon the earlier of a written request from the disclosing party, or the termination of this Agreement for any reason, the receiving party shall return any and all Confidential Information of the other party then in its possession or control and will not retain any copies of the same.
- 21.4 The receiving party shall immediately upon becoming aware of the same give notice to the disclosing party of any unauthorised disclosure, misuse, theft or other loss of Confidential Information of the other party, whether inadvertent or otherwise.
- 21.5 The terms of and obligations imposed by this Clause 21 shall survive the termination or expiry of this Agreement but shall not apply to any Confidential Information which:
- (a) at the time of receipt by the receiving party is in the public domain, or subsequently comes into the public domain through no fault of the receiving party, its officers, employees, agents or contractors;
 - (b) is lawfully received by the receiving party from a third party on an unrestricted basis;
 - (c) is already known to the receiving party before receipt hereunder; or
 - (d) is independently developed by the receiving party or its employees, agents or contractors.
- 21.6 The receiving party may disclose Confidential Information of the other party as may be required by Law, provided that, to the extent practicable in the circumstances, the disclosing party is in each case given reasonable advance notice of the intended disclosure and a reasonable opportunity to challenge the same.
- 21.7 The specific terms of this Agreement shall constitute confidential information of both parties for the purposes of this Clause 21.

22. ASSIGNMENT

- 22.1 Subject to Clause 22.2 and except where expressly stated otherwise in this Agreement, neither party may transfer, novate, assign or sub-license this Agreement or their respective rights or obligations under it in whole or in part without the prior written consent of the other, such consent not to be unreasonably withheld or delayed.
- 22.2 Notwithstanding Clause 22.1, Arqiva may on written notice to the Customer transfer, novate, assign or sub-license this Agreement or its respective rights or obligations under it in whole or in part to any of its Associated Companies, or to any person acquiring all or substantially all of the assets of Arqiva (and the Customer hereby consents to the same). Further Arqiva may assign its rights to payments, revenues and any similar rights, pursuant to any fixed or floating charge or other security arrangement required under any funding arrangements applicable to its business.

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23. NOTICES

- 23.1 Any notice, consent, request or other communication required to be given under any provision of this Agreement shall, unless otherwise indicated in that provision, be in writing and be served under this Agreement by being hand delivered or sent by first class recorded delivery post or answer back facsimile process to the party to be served at its address appearing in this Agreement or at such other address as it may have notified to the other party in accordance with this Clause 23.
- 23.2 Any notice or document shall be deemed to have been served:
- (a) if hand delivered, at the time of delivery; or
 - (b) if posted, at 10.00 a.m. on the second Business Day after it was put into the post; or
 - (c) if sent by facsimile and acknowledged by the correct answer back facsimile process, at the expiration of 2 hours after the time of despatch, if despatched before 3.00 p.m. on any Business Day, and in any other case at 10.00 a.m. on the Business Day following the date of despatch.
- 23.3 In proving service of a notice or document it shall be sufficient to prove that delivery was made or that the envelope containing the notice or document was properly addressed and posted as a prepaid first class recorded delivery letter or that the answer back facsimile message was properly addressed and despatched as the case may be.

24. GOVERNING LAW AND DISPUTE RESOLUTION

24.1 Governing Law

The construction, validity and performance of this Agreement, and all non-contractual obligations arising from or connected with this Agreement, shall be governed by English Law and, subject to Clauses 24.2 to 24.4, the parties hereby submit irrevocably to the exclusive jurisdiction of the English courts to resolve any dispute between them.

24.2 Dispute Procedure

Without prejudice to Clause 24.3 and 24.4, any unresolved question or difference which may arise concerning the construction, meaning, effect or operation of this Agreement or any matter arising out of or in connection with this Agreement shall in the first instance be referred to the persons listed at Level 1 in the escalation table below, who shall meet to discuss the matter within 5 Business Days. If the matter is not resolved at such meeting, the matter shall be referred to the persons listed at Level 2 in the escalation table below who must meet within a further ten (10) Business Days or such other period as the parties may agree to attempt to resolve the matter. If the matter is not resolved at such meeting, the matter shall be referred to the persons listed at Level 3 in the escalation table below who must meet within a further fifteen (15) Business Days or such other period as the parties may agree to attempt to resolve the matter. If the unresolved matter is having a serious effect on the performance of this Agreement, the parties shall use all reasonable endeavours to reduce the elapsed time in completing the process. Nothing in this Clause 24.2 shall prevent either party from seeking emergency or injunctive relief from any court of competent jurisdiction in relation to any damage or anticipated damage to property or proprietary rights.

Customer

Arqiva

First Level:

First Level:

[]

Customer Account Director

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Second Level:

[]

Third Level:

[]

Second Level:

Managing Director, Broadcast and Media

Third Level:

Company Secretary

If any of the above is unable to attend a meeting, a substitute may attend provided that such substitute has at least the same seniority or reasonably comparable managerial or directorial responsibility and is authorised to settle the unresolved matter. Any matter which remains unresolved following exhaustion of the escalation procedure set out in this Clause 24.2 shall be dealt with in accordance with Clause 24.1.

24.3 Expert Determination

If a dispute arises in relation to any factual or financial matter under any provision of this Agreement which cross refers to this Clause 24.3, then either party shall be entitled, by notice in writing to the other, to refer the matter to an independent expert. In the absence of agreement between the parties as to the identity of the expert within 30 days of either party's aforesaid notice, the expert shall be appointed by a nominee of President of the Institute of Chartered Accountants in England and Wales. Arqiva and the Customer shall cooperate in providing to the expert such information as the expert reasonably requests to assist in his deliberations. Where relevant, pending the expert's decision the direct debit for the Transmission Fee shall not be changed. Arqiva and the Customer shall (in the absence of manifest error) accept as final and binding the decision of the expert. Where the expert finds in favour of one party, such sum as the expert determines shall be paid by the other party within 28 days of such decision, plus interest from the Due Date in respect of the sum. Following the expert's decision, the direct debit for the Transmission Fee shall be changed as necessary to reflect such decision. Any fees, costs and/or expenses payable to any expert appointed under this Clause 24.3 shall be shared as determined by the expert.

24.4 Undertakings

The Customer may refer any dispute to the Adjudicator in accordance with the Adjudicator Scheme and Adjudicator Rules (as such terms are defined in the Undertakings).

25. GENERAL

25.1 Except as otherwise expressly agreed in writing between the parties, each party shall be responsible for its own costs incurred in performing its obligations under this Agreement.

25.2 The failure of either party to enforce or to exercise at any time or for any period of time any term of or any right pursuant to this Agreement does not constitute, and shall not be construed as, a waiver of such term or right and shall in no way affect that party's right later to enforce or to exercise it.

25.3 If any term of this Agreement is found to be illegal, invalid or unenforceable under any Law, such term shall, insofar as it is severable from the remaining terms, be deemed omitted from this Agreement and shall in no way affect the legality, validity or enforceability of the remaining terms.

25.4 Notwithstanding any other provision of this Agreement, neither of the parties hereto shall be:

- (a) required to do anything in contravention of any Laws, Consents or other consents, approvals, licences, authorisations or permissions, or directions of any Government Authority; or

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- (b) required to refrain from doing anything the party is required to do under such Laws, Consents or other consents, approvals, licences, authorisations or permissions, or directions of any Government Authority; or
 - (c) liable to the other party for failing to do anything which if done would be in contravention of any such Laws, Consents or other consents, approvals, licences, authorisations or permissions, or directions of any Government Authority.
- 25.5 This Agreement contains all the terms agreed between the parties regarding its subject matter and supersedes any prior agreement, understanding or arrangement between the parties, whether oral or in writing. No representation, undertaking or promise shall be taken to have been given or be implied from anything said or written in negotiations between the parties prior to this Agreement except as expressly stated in this Agreement. Neither party shall have any remedy in respect of any untrue statement made by the other upon which that party relied in entering into this Agreement (unless such untrue statement was made fraudulently) and that party's only remedies shall be for breach of contract as provided in this Agreement.
- 25.6 Provisions of this Agreement which either are expressed to survive its expiry or termination or from their nature or context it is contemplated that they are to survive such expiry or termination, shall remain in full force and effect notwithstanding such expiry or termination.
- 25.7 The relationship of the parties is that of independent contractors dealing at arm's length. Except as otherwise stated in this Agreement, nothing in this Agreement shall constitute the parties as partners, joint venturers or co-owners, or constitute either party as the agent, employee or representative of the other, or empower either party to act for, bind or otherwise create or assume any obligation on behalf of the other, and neither party shall hold itself out as having authority to do the same. The Customer acknowledges that no provisions in this Agreement are intended to create nor shall be treated or construed as creating the relationship of landlord and tenant between Arqiva and the Customer, which relationship shall be merely that of the provider and recipient of services and the Customer makes no claim and shall not make any claim in this respect.
- 25.8 The parties shall do and execute all such further acts and things as are reasonably required to give full effect to the rights given and the transactions contemplated by this Agreement.
- 25.9 No person who is not a party to this Agreement is granted or shall acquire any rights under it or be entitled to benefit from any of its terms, whether by virtue of the Contract (Rights of Third Parties) Act 1999 or otherwise.
- 25.10 Except as expressly provided in this Agreement, no alteration to or variation of this Agreement shall take effect unless and until the same is in writing and signed on behalf of each of the parties by a duly authorised representative in accordance with the Change Control Procedure.
- 25.11 This Agreement may be executed in several counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same document.

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SCHEDULE 1

Defined Terms

In this Agreement the following expressions shall have the meanings ascribed to them:

"600 MHz Network Access Programme" means the implementation programme set out in the relevant Network Access agreement;

"600 MHz Transmission Programme" means the implementation programme set out in Schedule 3;

"Acceptance Testing Plan" the acceptance testing plan agreed by the parties pursuant to Schedule 15 of this Agreement;

"Act" the Broadcasting Act 1996;

"Actual Service Start Date" in relation to each Station, the date on which Arqiva's provision of the Transmission Service commences pursuant to Clause 5.2;

"Adjudicator" means the adjudicator appointed under the Undertakings;

"Advance Design Agreement" the agreement referred to in Clause 2.8(a) to allow Arqiva to commence the design process in January 2013 prior to the signature of this Agreement;

"Advance Equipment Procurement Agreement" the agreement referred to in Clause 2.8(b) to allow orders to be placed for Equipment prior to the signature of this Agreement;

"Agreement" these Reference Offer Terms and Conditions, all Schedules hereto, and any other documents which are referred to in any of the foregoing;

"Antenna" any antenna, dish or other item of equipment, apparatus, appliance or instrument installed on or affixed to any Mast at any Station for the reception, transmission or relay of radio or electromagnetic waves;

"Antenna ADS Approval Date" means any date so specified in Schedule 3 (Station Dates).

"Antenna Design Proposal" means a document prepared by Arqiva which will set out the Antenna options available to the Customer;

"Antenna Design Specification" or "ADS" means the specification for the Antenna System which shall include the selected Antenna physical configuration, computer modelled HRP's, the computer modelled VRP's, provisional system gain calculations and provision implementation plans;

"Antenna System" means the assembly of Antenna(s) and the supporting fixtures and feeders for that assembly;

"Arqiva Licence" means (i) any radio spectrum licence granted to Arqiva under Part I of the Wireless Telegraphy Act 1949; and/or (ii) any conditions imposed on Arqiva under the General Authorisation; as applicable

"Associated Company" in relation to any company: any subsidiary of that company, that company's holding company or any subsidiary of such holding company from time to time. A company or other entity shall be a "holding company" for the purpose of this definition if it falls within either the meaning attributed to that term in Section 1159 of the Companies Act 2006 or the meaning attributed to the term "parent undertaking" in Section 1162 of the Companies Act 2006, and a company or other entity shall be a "subsidiary" for the purposes of this definition if it falls within either the meaning attributed to that term in Section 1159 of the Companies Act 2006 or the meaning attributed to the term "subsidiary undertaking" in Section 1162 of the Companies Act 2006;

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"Baseline Specification" the configuration and description of the System which is current as at the Execution Date, as set out in Schedule 6;

"Breakdown" a fault in the System or Equipment or other event which causes either: (i) a Loss of Transmission; or (ii) a Quality Impairment;

"Build Project" the project to construct and install all elements of the System as set forth in Clause 4.2 and in accordance with the programme set forth in Schedule 3;

"Business Day" any day which is not a Saturday, Sunday or a public holiday in the United Kingdom;

"Change" has the meaning given to it in Clause 12.1;

"Change Control Procedure" the procedure set out at Schedule 13;

"Change in Broadcasting Law" means any of the following:

(i) any change to the Wireless Telegraphy Acts 1949, 1967, 1998 and 2006, the Telecommunications Act 1984, the Broadcasting Act 1990, the Broadcasting Act 1996, the Communications Act 2003 and any other statutes or regulations relating to broadcasting, wireless telegraphy or telecommunications as are from time to time in force during the term of this Agreement (the "Statutes");

(ii) any extension, enactment or re-enactment of any of the Statutes;

(iii) any change to any licences required to be held by Arqiva pursuant to any of the Statutes which requires Arqiva to carry out further work in order to be in compliance in all material respects therewith; or

(iv) any relevant technical standards notified by any Competent Authority to Arqiva from time to time;

"Change in Law" means any of the following (i) a change in the judicial interpretation or application by any Government Authority of any Law in the United Kingdom; (ii) the enactment or introduction of any new Law in the United Kingdom; (iii) the modification or repeal of any Law in the United Kingdom; (iv) the termination, amendment or revocation of any Consent; or (v) the introduction of new or amendment of existing non-binding guidelines, rules and guidance issued by any Government Authority or (vi) any Change in Broadcasting Law;

"Change Log" has the meaning given to it in Paragraph 5.1 of Schedule 13;

"Change Proposal" has the meaning given to it in Paragraph 1.4 of Schedule 13;

"Change Request" has the meaning given to it in Paragraph 1.2 of Schedule 13;

"Common Equipment" means the Equipment which is wholly or partly used to provide Network Access and which is shared or available for shared use by Arqiva, the Customer, and/or any other party authorised by Arqiva from time to time;

"Competent Authority" means Ofcom or H.M. Government;

"Confidential Information" in relation to either party, information (in any form) belonging or relating to the disclosing party, its Associated Companies, its or their business, clients, customers, business plans, affairs or activities, which information is confidential to the disclosing party, its Associated Companies, clients or customers (as the case may be), including trade secrets, information and data relating to existing or potential customers,

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technical and business information relating to the disclosing party's inventions or products, research and development, production, manufacturing and engineering processes, employees or officers, customer lists or requirements, price lists or pricing structures, marketing and sales information, business plans or dealings, financial information or plans, designs, product lines, any document marked Confidential, or any information which the receiving party has been informed is confidential or which the receiving party might reasonably expect that the disclosing party would regard as confidential, and any confidential information of clients, customers, suppliers or other third parties;

"Consents" the consents, approvals, licences and permissions that Arqiva legally requires from any government department, national or international regulatory body to complete the Build Project and operate the Transmission Service;

"Content" any television, audio, radio or other programming, data or other material, whether free to air, subscription, pay-per-view or otherwise which the Customer wishes to have broadcast as part of the Licensed Service;

"Content Providers" means any provider of Content utilising the Licensed Service during the term of this Agreement;

"Customer Equipment" means any Equipment agreed in advance with Arqiva and used exclusively by the Customer or otherwise under the Customer's exclusive control;

"Customer Signals" signals comprising Content to be delivered by the Customer to Arqiva under Clause 5.3(a) and Schedule 8;

"CRO" or **"Change Request Order"** has the meaning given to it in Paragraph 1.6 of Schedule 13;

"DCMS" the Department of Culture, Media and Sport and any successor body;

"Distribution Service" the distribution service using the Distribution System comprising the conveyance of the Customer Signals to the MTS Insertion Points;

"Distribution Service Provider" the entity or entities that the Customer shall advise Arqiva from time to time as being responsible throughout the term of this Agreement for conveying the Customer Signals by means of the Distribution System to the MTS Insertion Points;

"Distribution System" the system used by the Distribution Service Provider to convey the Customer Signals to the MTS Insertion Points;

"Due Date" the date on or, as the case may be, by reference to which payment of any amount owed to Arqiva or the Customer, as the case may be, is to be made under any provision of this Agreement;

"Equipment" any equipment used by Arqiva in the provision of the Transmission Service;

"ERP" Effective Radiated Power;

"Exceptional Risk" means any risk so identified in Schedule 18;

"Exclusive Contracted Equipment" such Equipment as is used by Arqiva solely in the provision of the Transmission Service and comprised in the Managed Transmission Elements but not including any Equipment which is used to provide Network Access;

"Execution Date" the date this Agreement is executed by both parties;

"Fault Notice" a written notice of a Breakdown and/or other impairment of the System (as applicable);

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"Force Majeure Event" has the meaning given to it in Clause 14.1;

"Government Authority" any supranational, state or local governmental entity or instrumentality (including any ministry, department, regulatory body, political subdivision, agency, corporation or other person exercising the delegated authority of any such person or entity) having jurisdiction (whether legislative, executive, regulatory, administrative, judicial or otherwise howsoever) over the subject matter of, or any matter pertaining to, this Agreement; either or both of the parties; and/or any persons employed, engaged or contracted by either of the parties;

"Guarantor" means the guarantor or other provider of security as set out in Schedule 25;

"Guarantee" means the guarantee or other form of security in the form set out in Schedule 25;

"HRP" means horizontal radiation pattern;

"Intellectual Property Rights" all rights to copyrights, inventions, registered or unregistered designs, trade marks, patents (and all applications for trade marks or patents), trade secrets, know-how, rights of confidence, moral rights and any other intellectual or industrial property rights of any nature, whether like those described above or otherwise, throughout the world for the full permitted duration of such rights and all renewals and extensions to the same;

"Laws" all legislation, statutes, regulations, degrees, ordinances, and other laws, regulations, by-laws, regulatory requirements and codes of practice of or issued by any Government Authority and **"Law"** means any of them;

"Licences" the licences and/or authorisations required by Arqiva under the Communications Act 2003, and any other licences which Arqiva may at any time require in relation to the Transmission Service (as amended from time to time) from the commencement of the same;

"Licensed Service" the multiplex service (as defined in Section 1(1) of the Act) which the Customer has the right and duty to provide pursuant to the Multiplex Licence;

"Liquidated Damages" the liquidated damages payable by Arqiva under Clause 4.3, as set out in Schedule 16;

"Loss of Transmission" the cessation by a Station of the transmission of Customer Signals, or a Material Degradation, for a continuous period exceeding 30 seconds;

"Lower 30 Sites" means any Site so specified in Schedule 5 (Stations);

"Managed Transmission Elements" the System elements as specified in the System Specification required to provide the Transmission Service from the MTS Insertion Points to the input of the combiner unit at each Site;

"Managed Transmission Fee" that part of the Transmission Fee that does not comprise the Network Access Fees and which is described in Schedule 4;

"Mast" any radio mast, tower, pole, rooftop, stub-mast, building elevation face mounting, head-frame or other aerial support pole or structure (located at height or at ground level);

"Material Degradation" any degradation of the Customer Signals identified in Table 2 of Schedule 12, other than a Quality Impairment;

"Maximum Permissible ERP" means the maximum ERP that can be supported by an Antenna for a Multiplex as shown in Schedule 6;

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"MTS Insertion Points" the interface between the Distribution System and the Transmission System at each of the Stations, as more particularly described in Schedule 7;

"Multi-Party Change" has the meaning set out in paragraph 1.4.8 of Schedule 13;

"Multiplex Licence" the digital terrestrial television multiplex licence granted by Ofcom to the Customer pursuant to Part I of the Act (as amended and renewed from time to time);

"Multiplex Service" the digital terrestrial television encoding and multiplex service applied to the Customer Signals;

"Multiplex Service Provider" the entity or entities that the Customer shall advise Arqiva from time to time as being responsible for providing the Multiplex Service during the Term of this Agreement;

"Network Access" access to the mast and site network and shared or shareable antenna systems acquired, constructed or installed by Arqiva, as required for the purpose of providing the Transmission Service;

"Network Access Fees" that part of the Transmission Fee that does not comprise the Managed Transmission Fee and which is described in Schedule 4;

"Net Present Value" the net present value, as calculated in accordance with generally accepted accounting practices in the UK, applying a specified discount rate;

"Ofcom" the Office of Communications, its predecessor(s) and any successor body;

"Ofcom Provisional Specification" means the document set out in Schedule 24 (Ofcom Provisional Specification);

"Pass-Through Costs" has the meaning set out in paragraph 2.2.1 of Schedule 4 (Transmission Fee);

"Persistent Failure" a service performance failure by Arqiva in respect of the Transmission Service which gives rise to either of the following:

- (a) a right for the Customer to terminate for material breach pursuant to Clause 16.3(a); or
- (b) where, in any Year, Arqiva is (or would be but for the cap on service credits set out in Clause 10.1(b)) liable to pay service credits to the Customer pursuant to Clause 10.1(a) in an amount equal to or greater than ten percent (10%) of the Transmission Fee for that Year;

"Power Test Date" means any date so specified in Schedule 3 (Station Dates);

"Quality Impairment" shall occur where the Customer Signal is either not consistently decoded, or when decoded exhibits video blocking or intermittent loss of sound and/or video to a perceptible and disturbing extent when, after transmission by Arqiva, it is received by a fully operational set-top box, at a level within the set-top box's input range, and free from significant interference, always provided that it has been delivered to the MTS Insertion Point with sufficient bit rate for the Transmission Service, in a state such that it is consistently decoded by a fully operational set-top box such that it is free of video blocking or intermittent or total loss of sound and/or video;

"Rectification Process" means that, when measured over the one (1) month period specified in the Super Credit Notice, and when calculated by reference to all the Stations within the Customer's network, Arqiva is able to achieve a network availability level equal to or better

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than the relevant Total Time of Service Availability. The steps to measure this will be as follows:

- (a) For each Station, the number of actual minutes of weighted accountable non-availability (as per the Agreement) over the one (1) month period will be divided by the number of permitted minutes of non-availability at the Station (the latter being calculated by reference to the relevant Total Time of Service Availability).
- (b) Each of the Stations within the Customer's network will be given a Station weighting, reflecting the relative importance to the Customer of the Stations. The sum of the weightings for all Stations will equal 1. The Station weightings will be calculated by reference to the respective percentage weightings set out in Schedule 12, Table 4. Each percentage weighting will be converted into a decimal figure such that the sum of the decimal figures totals 1 (for example, for Emley Moor the percentage weighting of 5.69 per cent will be converted into a decimal figure of 0.0569). The decimal figure will be the Station weighting for each Station.
- (c) For each Station, the availability ratio derived as set out in paragraph (a) above will be multiplied by the relevant Station weighting as described above. The scores for each Station will be aggregated. If the aggregate score is greater than 1, Arqiva will be liable to pay the Super Credit. If the aggregate score is 1 or less, Arqiva will have rectified its poor performance.
- (d) Where any network failure is caused by a service failure outside Arqiva's control, a distribution or multiplexing (where applicable) failure or a failure of electricity supply at a Station for which there is no permanent back-up generator on site, any resulting non-availability shall not form part of the calculation set out above;

"Reference Offer" the Arqiva reference offer entitled "Reference Offer for the provision of Transmission Services in respect of proposed award of a licence in the 600 MHz frequency band";

"Regular Hours" 24 hours a day, 365 days a Year or, in the case of a Year which is a leap year, 366 days a Year;

"RO Shortfall" means the difference between the relevant portion of the undepreciated cost of incremental capital expenditure (indexed by RPI) incurred after 1 January 2011 and which is used by Arqiva to provide Network Access for the benefit of the Customer as at (i) the date of early termination and (ii) that projected at [1 October 2026], reduced to reflect any mitigation which Arqiva, using its reasonable endeavours, is able to secure. In this definition "relevant portion" means a pro rata share (attributable to the Customer and the number of Stations used to provide the Transmission Service) which reflects the number and type of multiplexes in respect of which Network Access is provided by Arqiva using such assets.

"RPI" the Retail Prices Index (All Items) published by the Office for National Statistics (or equivalent index published by any successor organisation);

"Satisfaction Date" has the meaning given to it in Clause 2.4;

"Service Start Date" means the date on which the Customer commences operational broadcasting use from the relevant Station;

"Site" the site of any Station as listed in Schedule 5;

"SMC" Arqiva's national service management centre at Emley Moor or such other customer service centre as Arqiva shall notify to the Customer in writing from time to time;

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"Standard Risk" means any risk so identified in Schedule 18;

"Station" any station listed in Schedule 5;

"Station Service Category" Station Service Category 'A' or 'B' as set out in Schedule 5;

"Super Credit" an amount equal to ten per cent (10%) of the Transmission Fee payable by the Customer (excluding, for the avoidance of doubt, (i) any amounts payable for electricity and (ii) any amounts payable by the Customer pursuant to Clause 9.9 for WTA licence fees) for all Stations in the Customer's network in the twelve (12) months preceding the date of expiry of the one (1) month period following the Super Credit Notice. For the purpose of calculating the Super Credit any reductions in the Transmission Fees which have occurred to reflect any service credits or Liquidated Damages shall be disregarded;

"Super Credit Claim" a written notice from the Customer to Arqiva which notifies Arqiva that:

- (a) Arqiva has failed to rectify its performance as measured under the Rectification Process;
- (b) the Customer is claiming a Super Credit; and
- (c) on receipt of the Super Credit, the Customer waives its right to terminate in respect of the relevant Persistent Failure.

"Super Credit Notice" a written notice from the Customer to Arqiva which notifies Arqiva that:

- 1.1.1 a Persistent Failure has occurred;
- 1.1.2 the Customer requests Arqiva to submit a service improvement plan; and
- 1.1.3 the Customer intends to claim a Super Credit if Arqiva does not rectify its poor performance to the Total Time of Service Availability within one (1) month as assessed under the Rectification Process;

"System" the system, more particularly described in the System Specification, to be used by Arqiva in its provision of the Transmission Service;

"System Specification" the Baseline Specification, as the same may amended by the parties via the Change Control Procedure from time to time;

"Target Response Time" shall have the meaning set out in Schedule 10;

"Target Service Start Date" in relation to any Station, the target in-service date on which Arqiva is due to commence provision of the Transmission Service pursuant to Clause 5.2, as set out in Schedule 3;

"Term" the duration of this Agreement, as determined in accordance with Clause 16;

"Total Time of Service Availability" the time for which Arqiva is contracted to transmit the Customer Signals to and from the Stations, free from Breakdowns, calculated as specified in Schedule 11;

"Transmission Fee" the Managed Transmission Fee and the Network Access Fees payable by the Customer to Arqiva for the provision of the Transmission Service under Clause 9;

"Transmission Service" a fully managed and monitored transmission service using the Transmission System and comprising the transmission of the multiplexed Customer Signals during the Regular Hours;

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"Transmitter System" the transmitter used by Arqiva to transmit the Customer Signals from the Stations;

"Transmitter System Specification Date" means any date so specified in Schedule 3 (Station Dates);

"Triple Multiplex Environment" means the situation where a Transmission Service is required to support one (1) Multiplex in an environment where three (3) 600 MHz Multiplexes are required in total;

"Undertakings" the undertakings accepted by the Competition Commission on 1 September 2008 from Macquarie UK Broadcast Holdings Limited, Macquarie MCG International Limited, Macquarie European Infrastructure Fund II, Macquarie European Infrastructure Fund III and Macquarie Capital Funds (Europe) Limited in respect of the completed acquisition by Macquarie UK Broadcast Ventures Limited, a subsidiary of Macquarie UK Broadcast Holdings Limited, of National Grid Telecoms Investment Limited, Lattice Telecommunications Asset Development Company Limited and National Grid Wireless No. 2 Limited. A copy of the Undertakings is available at <http://www.competition-commission.org.uk>;

"Upper 50 Sites" means any Site so specified in Schedule 5 (Stations);

"VRP" means vertical radiation pattern;

"WACC" weighted average cost of capital;

"WTA" the Wireless Telegraphy Acts 1949 and 1967, 1998 and 2006;

"WTA Licence" such licence(s) as are from time to time issued to the Customer under the WTA as are relevant to this Agreement; and

"Year" the period of 12 months from the Execution Date and any subsequent period of 12 months or, where the context requires, part thereof while this Agreement remains in force.

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SCHEDULE 2

Scope of System and Transmission Service

1. Introduction

Arqiva will provide Transmission Service at all of the Stations as listed in Schedule 5. The provision of the Transmission Service will include access to the following (subject to the terms of this Agreement):

Network Access

- a. Masts;
- b. Antenna Systems including feeders and combining units;
- c. Accommodation;
- d. Power systems including back-up power in a form of fixed generators;
- e. Telecom Facilities.

Managed Transmission Elements

- a. Transmitter Systems;
- b. Programme Input Equipment
- c. Telemetry Systems

It should be noted that the provision of the distribution of content signals to the Stations by the Customer (and any other facilities which are not listed specifically herein) shall be outside the scope of this Agreement.

In respect of the distribution of Customer Signals by the Customer, the use of line feeds has been assumed. This minimises dependencies between Sites and allows flexibility of the 600 MHz Transmission Service Programme (see Schedule 3). Since line feeds have been assumed, the provision of off-air receive Antenna Systems (to allow the use of rebroadcast links) is outside the scope of this Agreement.

This schedule provides details of the scope of the provision of Digital Terrestrial Television Transmission service offered by Arqiva under this Agreement. This Agreement relates to the transmission of a DVB-T2 multiplex from 80 Stations as defined by the parameters stated in Schedule 6.

The 80 Stations are listed in Schedule 5.

Due to capacity and/or planning issues following Site substitutions have been made:

- Sutton Coldfield replaced with Lichfield;
- Pontop Pike replaced with Burnhope; and
- Rowridge replaced with Chillerton Down.

The use of Sutton Coldfield and Pontop Pike Stations has been avoided due to capacity constraints in both the Antenna System and structure. Arqiva reserves the right to provide the Transmission Service from Rowridge Station instead of Chillerton Down Station subject to further analysis.

The provision of distribution (and any other facilities which are not listed specifically herein) shall be outside the scope of this Agreement.

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2. The Baseline Specification

The Baseline Specification is based upon the deployment of one digital multiplex at the 80 main terrestrial television transmitter Stations across the UK. This Agreement is based upon the simultaneous deployment of Equipment relating to three multiplexes in accordance with Schedule 6 and Schedule 3.

The provision of the Transmission Service will include access to Network Access facilities at the Stations, the provision of Managed Transmission Elements and ongoing operational, control and maintenance services.

The Transmitter Systems will be sized to provide the Nominal Operational ERPs (+/-1dB) as limited by the capabilities of the Antenna Systems. The Nominal Operational ERPs are shown on a Site-by-Site basis in Schedule 6.

The Network Access facilities provided under the terms of this Reference Offer are based directly upon the performance of the Antenna Systems.

It should be noted that the Nominal Operational ERP may be limited by the capabilities of the Antenna System and be below that which might otherwise have been permitted by the Ofcom Provisional Specification (shown in Schedule 24).

In the event of a Transmitter System fault, the transmitted ERP shall be maintained at up to 3dB below the Nominal Operational ERP when operating from the main Antenna under nominal operating conditions.

This Agreement is based upon the assumption that all 80 Stations shall be line fed and, as a result, relay stations, fed from off-air RBL paths shall not be present in the network.

The Baseline Specification is consistent with a high availability design and consequently provides for the following:

Upper 50 Sites

50 Stations

- Main and reserve Antenna and split Antennas (see Schedule 6)*;
- High Availability Transmitter System;
- Duplicated electricity feed to site;
- Maintained power supply to transmission plant;
- Continuous monitoring; and
- Extensive remote control.

Lower 30 Sites

30 Stations

- Single Split Antenna (nominal)*;
- High Availability Transmitter System;
- Duplicated electricity feed to site where available;
- Generator Socket;
- Continuous monitoring; and
- Extensive remote control.

* All Antenna configurations are subject to variations on a Site-by-Site basis as shown in Schedule 6. Where existing High Power DTT antennas are unable to support the 600 MHz Transmission Service, a new Single Split Antenna system shall be provided.

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2.1 Upper 50 Sites

The Upper 50 Sites will provide service to the majority of the UK population and, in order to support high power DTT services as part of the Digital Switchover Programme, these Stations were equipped with main and reserve Antenna Systems. These Antennas support up to six high power DTT multiplexes. Arqiva has identified that additional multiplexes (often at reduced power) can be supported by this existing infrastructure at some Sites as shown in Schedule 6.

Where the existing main and reserve Antenna Systems are available and can support the 600 MHz Transmission Service, the ERP available from each Antenna may vary relative to the Ofcom Provisional Specification. The ERP available from under nominal and Antenna fault conditions (assuming nominal transmitter operation) are shown in Schedule 6 on a Site-by-Site basis.

Where existing Antenna Systems are unable to support the 600 MHz Transmission Service, new Antenna Systems shall be provided as indicated in Schedule 6. Where new Antenna Systems are provided, such systems shall be split Antenna Systems in which service shall be supported at the Nominal Operational ERP under normal circumstances (full Antenna operation) and at -3dB relative to nominal when operating in half Antenna (reserve) mode.

At the Upper 50 Sites, high availability Transmitter Systems shall be provided which shall allow service to be maintained at a reduced ERP at -3dB relative to the Nominal Operational ERP in the absence of an Antenna fault.

2.2 Lower 30 Sites

As a minimum, Lower 30 Sites shall benefit from split Antennas. In order to support high power DTT services as part of the Digital Switchover Programme, these Stations were equipped with split Antenna Systems which, in the event of an Antenna failure, can provide a sustaining service at a reduced ERP level. Where existing Antennas can be used, such Antennas support up to six high power DTT multiplexes. Arqiva has identified that additional multiplexes (often at reduced power) can be supported by this existing infrastructure as shown in Schedule 6. Under an Antenna fault condition, service shall be sustained at reduced ERP in half Antenna mode. In half Antenna operation the ERP shall be as shown in Schedule 6 (assuming nominal transmitter operation).

Where existing Antenna Systems are unable to support the 600 MHz Transmission Service, new Antenna Systems shall be provided as indicated in Schedule 6. Where new Antenna Systems are provided, such systems shall be split Antenna Systems in which service shall be supported at the Nominal Operational ERP under normal circumstances (full Antenna operation) and at -3dB relative to nominal when operating in half Antenna (reserve) mode.

At these lower power Sites, high availability Transmitter Systems shall be provided in shared accommodation. The Transmitter Systems shall allow service to be maintained at a reduced ERP at -3dB relative to the Nominal Operational ERP in the absence of an Antenna fault.

Arqiva has taken the view that it would be prudent to provide increased availability systems at the island Sites of Bressay, Douglas, Fremont Point, Keelylang Hill, Eitshal and Torosay due to the travel time involved in accessing these Sites. These 'Sites with Difficult Access' are listed in Schedule 14.

3. Spectrum Planning Issues

3.1 Future Development of the Plan

The Baseline Specification is based on the frequency plan developed by Ofcom as set out in Schedule 24. However, due to performance limitations of the Antenna Systems, Arqiva shall provide a Transmission System compliant with the Baseline Specification which shall allow the Nominal Operational ERPs shown in Schedule 6 to be provided in the absence of equipment faults.

In the event that the frequency plan requires alteration, the Baseline Specification and the terms of this Agreement may require amendments.

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Modifications to characteristics of the Stations such as ERP and Antenna patterns that will have a direct effect on the Antennas and Transmitter Systems could also potentially impact the requirements for structures.

3.2 International Co-ordination

The frequency plan may need to be changed as a result of the international co-ordination process. Arqiva cannot fully determine the outcome of this process. The following issues need to be considered:

- coverage may be reduced in some areas because the terms of an agreement lead to increased interference;
- the Antenna pattern template (and thus the Antenna design) may be altered as part of the terms of a co-ordination agreement;
- additional restrictions in the Antenna template may be required; and
- other characteristics such as ERP and UHF channel may be altered as part of the terms of an agreement

The resolution of international co-ordination issues may lead to modification of the frequency plan which may require modification to the Baseline Specification. Any such modifications as may be required by the Customer shall be managed under the Change Control Procedure.

3.3 Reception Problems

The 600 MHz band may lie outside the normal operational band for DTT services in certain areas. Where this occurs, domestic aerial systems may require replacement in order to receive the 600 MHz services.

Differences in coverage arising from the use of an Antenna to transmit multiplexes operating on different frequencies will lead to variations in signal strength across the coverage area between different multiplexes. Under such circumstances, domestic aerial systems may require replacement in order to receive the 600 MHz services.

4. Antenna Systems

Schedule 6 details the Antenna configurations at each Station including details of whether existing or new Antennas will be used.

Existing Antennas will be used where possible but, where Arqiva considers it necessary, new Antennas will be provided. Where existing Antennas are not suitable, Arqiva shall provide a single Antenna to support the 600 MHz Transmission Service which shall be capable of operation in half Antenna configuration. The ERP to be provided under nominal and Antenna reserve conditions are set out in Schedule 6.

Arqiva has endeavoured to ensure that new Antenna Systems will, where feasible, be designed to meet the templates and restrictions specified in the Ofcom Provisional Specification (see Schedule 24).

The Customer has verified that, where existing Antennas are to be used as specified in Schedule 6, that such Antennas meet the requirements of the Customer.

Where Antenna System modifications are required (relative to the Baseline Specification) this shall be subject to the Change Control Procedure. Any such modifications shall be chargeable to the Customer and Arqiva will confirm any changes to the Station Dates as provided in Schedule 3. All new Antenna designs are subject to securing Ofcom and Customer approval prior to finalisation procurement and implementation. Further details of this approval process are provided in Schedule 20.

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4.1 Main/Reserve Antenna Systems

Where possible at the Upper 50 Sites, Arqiva will provide access to existing Antenna infrastructure which has been installed to support the high power DTT Network. Where this is possible, the 600 MHz Transmission Service shall benefit from having access to both main and reserve Antenna Systems.

During periods of an Antenna System fault or planned Antenna maintenance, the main or reserve Antenna System may not be available and the relevant Antenna System will be isolated.

4.2 Split Antenna Systems

Where main and reserve Antenna Systems are not available, split main Antennas will be provided. These Antennas will be capable of operating in half Antenna configuration with an ERP as specified in Schedule 6. An independent reserve Antenna facility will not be provided at these Stations.

4.3 New Antenna Infrastructure

Where existing Antenna Systems are not available, new split main Antennas will be provided. These Antennas will be capable of operating in half Antenna mode with an ERP as specified within the Schedule 6 (normally 3dB below Nominal Operational Permissible ERP except where otherwise stated). An independent reserve Antenna facility will not be provided at these Stations.

During periods of an Antenna System fault or planned Antenna maintenance, one half of the Antenna may not be available and the relevant half will be isolated. There may be a requirement to shut the whole Antenna down to allow safe access and allow maintenance work to proceed.

During the Antenna construction period, existing services to other customers may be disrupted whilst the new Antennas are being installed. Arqiva will aim to keep any such disruption to a minimum.

The process for selection of new Antenna Systems is detailed in Schedule 20.

4.3.1 Antenna Selection Process

Where new Antennas are proposed in this Agreement assumptions have been made in respect of performance and system gain in order to meet the requirements of the Ofcom Provisional Specifications and HRP templates. As part of the 600 MHz Transmission Programme design process, Arqiva shall liaise with potential suppliers and provide the Customer with a technical proposal related to the performance of a proposed new Antenna.

Where new Antennas are provided, Arqiva shall use all reasonable endeavours to ensure that the Antenna patterns are compliant with those as specified by Ofcom in Schedule 24. The Antenna System performance (ie. system gain information) used to determine the transmitter powers in Schedule 6 will be subject to variation. Any refined Antenna patterns and associated gain information shall be provided for acceptance by the Customer to allow Arqiva to produce a detailed Antenna Design Specification which the Customer must approve in writing by the Antenna ADS Approval Date. Finalisation of the Antenna design and patterns may lead to variations in system gain which in turn may lead to changes in transmitter requirements to achieve the Nominal Operational ERP and lead to variations in transmitter size. Any changes from the Antenna System performance and the transmitters shown in Schedule 6 shall be managed under the Change Control Procedure and lead to changes in charges and Target Service Start Dates.

Where the Antenna System at a Station can be used operationally and has a measured Antenna pattern which is not materially different from that agreed in the ADS, the Transmission Service shall commence and Arqiva would not be liable to pay liquidated damages. In the event that it is agreed that the measured Antenna pattern requires modification, but the Antenna System can be used operationally, Arqiva shall commence the Transmission Service and use reasonable endeavours to rectify the Antenna as soon as possible. Under such circumstances Arqiva shall not be liable to pay liquidated damages if it is not able to do so by the Target Station Service Date.

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The Antenna selection process shall allow the Customer the opportunity to influence the final specification of an Antenna. Where multiple users may require shared use of an Antenna, it shall be the responsibility of the Customer to act in good faith to agree an Antenna solution at each Site where a new Antenna is proposed by the required Antenna ADS Approval Date. Failure to agree the ADS by the required Antenna ADS Approval Date may lead to a delay in the provision of Network Access facilities and the Transmission Service.

Since there is an interrelation between coverage and system gain the Customer should be aware that the transmitters required to achieve the nominal ERP may be subject to change. Any implications for other facilities (as a result of the selection of an Antenna) shall be managed under the Change Control Procedure.

4.4 Combiner Units

4.4.1 Specification

Combiner units ("**CU**s") will be provided by Arqiva and will comply with the Arqiva UHF DSO Combiner Specification BOS014 (available upon request).

4.4.2 Input Isolation

The combiner units will provide a specified level of isolation between the inputs. This will normally be a minimum of 30dB. There will be a residual level of power fed back from any other customer equipment that share the Antenna System, and under fault conditions this may increase. The Customer shall ensure it has operational procedures that recognise this and the associated hazards.

4.4.3 Attenuation (or Filtering)

Arqiva will install CUs which achieve the level of pass band filtering for out-of-band emissions as specified in BOS014 (extract below). This level of filtering has been agreed with Ofcom for DSO. Please note that the specification does not achieve the full ETSI filter specifications. Any change will impact on the combiner system design and will require Ofcom approval.

4.4.4 Stopband Attenuation

The required minimum attenuation (as specified in BOS014) is in accordance with a mask indicated by the ERP.

Stopband Code 2A

Applies to Stations having ERP 1000W or more

Frequency relative to channel centre frequency (MHz)	Attenuation (dB)
-12	-42.2
-6	-17.2
-4.2	0
-3.81	0
+3.81	0
+4.2	0
+6	-17.2
+12	-42.2

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The mask is formed by drawing a straight line between the points in the table above.

Stopband Code B

Applies to Stations having an ERP of less than 1000W but equal to or more than 100W.

Also applies to band edge channels with an ERP of less than 100W.

Frequency relative to channel centre frequency (MHz)	Lower Band Edge Channels @ 100W (dB)	Lower Band Edge Channels @ 1,000W (dB)	Upper Band Edge Channels @ 100W (dB)	Upper Band Edge Channels @ 1,000W (dB)	Non Band Edge Channels @ 100W (dB)	Non band Edge Channels @ 1,000W (dB)
-12	-42.2	-42.2	-32.2*	-42.2*	-32.2*	-42.2*
-6	-17.2	-17.2	-7.2*	-17.2*	-7.2*	-17.2*
-4.2	0	0	0	0	0	0
-3.81	0	0	0	0	0	0
+3.81	0	0	0	0	0	0
+4.2	0	0	0	0	0	0
+6	-7.2*	-17.2*	-17.2	-17.2	-7.2*	-17.2*
+12	-32.2*	-42.2*	-42.2	-42.2	-32.2*	-42.2*

* These figures are scaled proportionately to obtain attenuation figures for ERP between 1000W and 100W

The mask is formed by drawing a straight line between the points in the table above.

The current Arqiva High Power DTT CU Specification (BOS014) allows for a relaxed roll-off to allow for adjacent DTT channel combining. This specified roll-off may not be optimum for combining adjacent T2 (extended carrier) muxes and hence further discussion with the Customer and Ofcom may be necessary to agree a finalised specification.

Attenuation and group delay data will be provided to the Customer when the equipment is available.

5. Transmitter Systems

Arqiva is committed to provide the Customer with a reliable, high-availability service befitting the standards and the expectations of the UK public. Consequently Arqiva has spent considerable time and attention on the technical configuration of the Transmitter Systems make up the majority of the capital spend and the efficiency of which leads directly to the ongoing operational energy costs.

In performing this analysis Arqiva have assumed that the availability requirements relate to the provision of service at nominal ERP +/-1dB. Since there is an inter-dependence between cost and performance Arqiva have sought to configure Transmitter Systems so as to fall back to the following degraded ERP levels under a failure condition:

Station Service Category	Transmission Service Target Availability (Post 12 month period following Actual Service Start Date)	ERP under Transmitter failure condition (relative to Nominal Operational ERP in absence of Antenna System fault)
Station Service Category A	99.9%	Up to 3dB ERP degradation

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Station Category B	Service	99.8%	Up to 3dB ERP degradation
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It has been assumed that all Transmitter Elements will be deployed simultaneously at a particular Site (albeit that they may be activated for digital service at different times) where 600 MHz Transmission Services are required for Layers 7, 8 and 9.

6. Service Information Processing

Service Information related to the Customer's multiplex and other multiplexes is required to be transmitted from Stations as stated in the D-Book. Arqiva shall provide Service Information Processing equipment to allow SI_Other to be generated from a Central Service Information ("CSI") feed.

The Customer will be required to provide or obtain access to a CSI. Arqiva shall not provide Service Information Processing equipment for Layer 9 under the terms of this Agreement. Special considerations apply to SFN Sites as more fully described in Schedule 21.

7. Telecom Facilities

It has been assumed that the Customer would chose at their own cost to provide signals to the Stations by terrestrial line feed. The provision of telecom facilities/distribution links to the Stations is outside the scope of this Agreement.

Since BT MPLS services are available at the majority of Stations and the Customer may wish to utilise the BT service, Arqiva shall provide cabling to support 2 x ASI feeds from the BT Telecoms area to either the Customer's 'Customer Dedicated Area' in respect of Upper 50 Sites, or the Customer's equipment rack in respect of Lower 30 Sites. These cables will be terminated and available for connection to Customer Equipment by the Customer. Arqiva have not allowed for connection to any BT equipment. BT MPLS services are not currently available at Chillerton Down, Burnhope and Lichfield Stations.

Alternative distribution solutions are outside the scope of this Agreement and, in the event that the Customer requires an alternative distribution solution, any such request shall be subject to the Change Control Procedure.

8. Exclusions

For the avoidance of doubt the following facilities are not within the scope of this Agreement.

- Programme distribution;
- Compression systems;
- Service Information processing;
- DVB-T2 Gateways;
- Spectrum Planning Study; and
- Customer Responsibilities.

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SCHEDULE 3

Station Dates

Table 2 below shows the key milestone dates and activities related to the deployment of the Layer 9 multiplex in a Triple Multiplex Environment. This Agreement is based upon the simultaneous deployment of three multiplexes.

The rollout plan has been produced based upon the prioritisation of the Sites in maximum population coverage order depending upon the required scope of works.

New Antennas will be provided at 32 sites where existing Antenna Systems are unable to support three multiplexes.

Table 1 below shows purely indicative coverage based upon theoretical Antenna patterns for new Antennas and the use of existing Antennas where possible. Where existing Antennas are used, the ERP may be limited due to Antenna power handling limitations at some Sites. The population figures are for illustrative purposes only and Arqiva makes no claims, warranties or representations in respect of the actual population coverage, which depends upon domestic reception systems. The Customer should consult Ofcom in respect of expected potential coverage.

Table 1 Layer 9 Site Deployment (Triple Multiplex Environment)

Year	Number of Sites	Estimated Year End Population Coverage (Cumulative)
2014	33	62%
2015	36	90%
2016	9	94%

To meet these rollout plans, transmitter system and Antenna designs shall have to commence in January 2013 and any delay in the start of the design programme will lead to a similar delay of the Target Service Start Date at Sites where Antenna works are not required. Any delay in the start of design works for new Antenna Systems may lead to a disproportionate delay in the Target Service Start Date due to the requirement to conduct Antenna System implementation during the months of March to October (to minimise the impact of inclement weather).

Where Antenna System builds are required, the dates shown in Table 2 (except in the cases of Sandy Health Station, Divis Station and Presely Station) allow for 'contingency' build season in case of severe inclement weather or unforeseen implementation issues. In the event that a prolonged period of inclement weather or implementation issues do not occur at a particular Station, Arqiva will use all reasonable endeavours to provide the Transmission Service at an earlier date in consultation with all the 600 MHz DTT Multiplex Licensees.

The Customer shall be required to agree Antenna designs and transmitter configurations by the Antenna ADS Approval Dates and Transmitter System Specification Dates respectively specified below to allow Transmission Service to be provided by the Target Service Start Date.

Table 2 - Station Dates

(Source: Rollout Plans Plan B3 30-Nov-11)

For the purpose of this Agreement the dates below refer to the last day in the month and is subject to change within the month stated.

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Type 1 - Upper 50 Stations Existing Antennas	Antenna (ADS) Approval Date	Transmitter System Specification Date	Power Test Date	Target Service Start Date (based on population coverage)
Crystal Palace	N/A	Jan-13	Dec-13	Feb-14
Winter Hill	N/A	Feb-13	Jan-14	Mar-14
Lichfield	N/A	Mar-13	Feb-14	Apr-14
Belmont	N/A	Mar-13	Feb-14	Apr-14
Craigkelly	N/A	Apr-13	Mar-14	May-14
Wenvoe	N/A	Apr-13	Mar-14	May-14
Hannington (Main)*	N/A	May-13	Apr-14	Jun-14
The Wrekin	N/A	May-13	Apr-14	Jun-14
Emley Moor	N/A	Jun-13	May-14	Jul-14
Tacolneston	N/A	Jun-13	May-14	Jul-14
Ridge Hill	N/A	Jul-13	Jun-14	Aug-14
Bluebell Hill	N/A	Jul-13	Jun-14	Aug-14
Durris	N/A	Aug-13	Jul-14	Sep-14
Caradon Hill	N/A	Aug-13	Jul-14	Sep-14
Moel Y Parc	N/A	Dec-13	Dec-14	Feb-15
Darvel	N/A	Dec-13	Dec-14	Feb-15
Midhurst	N/A	Jan-14	Jan-15	Mar-15
Redruth	N/A	Jan-14	Jan-15	Mar-15
Carmel	N/A	Feb-14	Feb-15	Apr-15
Rosemarkie	N/A	Feb-14	Feb-15	Apr-15
Heathfield	N/A	Mar-14	Mar-15	May-15
Blackhill	N/A	Mar-14	Mar-15	May-15
Llanddona	N/A	Apr-14	Apr-15	Jun-15
Knockmore	N/A	May-14	May-15	Jul-15
Eitshal	N/A	Jun-14	Jun-15	Aug-15
Keelylang Hill	N/A	Jun-14	Jun-15	Aug-15
Torosay	N/A	Jul-14	Jul-15	Sep-15
Bressay	N/A	Jul-14	Jul-15	Sep-15

*Note that Hannington Main Target Service Start Date is June 14 and Hannington Reserve Target Service Start Date is November 14.

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Type 2/3 - Upper 50 Stations New Antennas	Antenna (ADS) Approval Date	Transmitter System Specification Date	Power Test Date	Target Service Start Date (based on population coverage)
Sandy Heath	Jun-13	Sep-13	Sep-14	Nov-14
Hannington (Reserve)*	Apr-13	May-13		Nov 14
Divis	Jul-13	Sep-13	Nov-14	Jan-15
Presely	Jul-13	Sep-13	Nov-14	Jan-15
Mendip	Aug-13	Oct-13	Jul-15	Sep-15
Chillerton Down	Aug-13	Oct-13	Jul-15	Sep-15
Bilsdale	Sep-13	Oct-13	Aug-15	Oct-15
Burnhope	Sep-13	Nov-13	Aug-15	Oct-15
Waltham	Oct-13	Nov-13	Aug-15	Oct-15
Oxford	Oct-13	Nov-13	Sep-15	Nov-15
Dover	Nov-13	Dec-13	Sep-15	Nov-15
Angus	Nov-13	Dec-13	Sep-15	Nov-15
Stockland Hill	Jun-14	Sep-14	Jul-16	Sep-16
Caldbeck	Jun-14	Sep-14	Jul-16	Sep-16
Sudbury	Jul-14	Sep-14	Jul-16	Sep-16
Beacon Hill	Jul-14	Sep-14	Aug-16	Oct-16
Huntshaw Cross	Aug-14	Oct-14	Aug-16	Oct-16
Selkirk	Aug-14	Oct-14	Aug-16	Oct-16
Rumster Forest	Sep-14	Oct-14	Sep-16	Nov-16
Blaenplwyf	Sep-14	Nov-14	Sep-16	Nov-16
Chatton	Oct-14	Nov-14	Sep-16	Nov-16

* Hannington Main Target Service Start Date is June 14 and Hannington Reserve Target Service Start Date is November 14.

Type 4 - Lower 30 Stations Existing Antennas	Antenna (ADS) Approval Date	Transmitter System Specification Date	Power Test Date	Target Service Start Date (based on population coverage)
Sheffield	N/A	May-13	Mar-14	Apr-14
Hemel Hempstead	N/A	May-13	Mar-14	Apr-14
Kilvey Hill	N/A	Jun-13	Apr-14	May-14
Fenton	N/A	Jun-13	Apr-14	May-14
Fenham	N/A	Jul-13	May-14	Jun-14
Pendle Forest	N/A	Jul-13	May-14	Jun-14
Reigate	N/A	Aug-13	Jun-14	Jul-14
Lancaster	N/A	Aug-13	Jun-14	Jul-14
Nottingham	N/A	Sep-13	Jul-14	Aug-14
Lark Stoke	N/A	Sep-13	Jul-14	Aug-14
Keighley	N/A	Oct-13	Aug-14	Sep-14
Idle	N/A	Oct-13	Aug-14	Sep-14
Chesterfield	N/A	Nov-13	Sep-14	Oct-14
Bristol Kings Weston	N/A	Nov-13	Sep-14	Oct-14
Bromsgrove	N/A	Dec-13	Oct-14	Nov-14
Aberdare	N/A	Dec-13	Oct-14	Nov-14
Storeton	N/A	Jan-14	Nov-14	Dec-14
Pontypool	N/A	Jan-14	Nov-14	Dec-14

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Type 5 - Lower 30 Stations New Antennas	Antenna (ADS) Approval Date	Transmitter System Specification Date	Power Test Date	Target Station Service Date (based on population coverage)
Whitehawk Hill	Apr-14	May-14	May-15	Jun-15
Brierley Hill	Apr-14	May-14	May-15	Jun-15
Tunbridge Wells	May-14	Jun-14	Jun-15	Jul-15
Plympton	May-14	Jun-14	Jun-15	Jul-15
Guildford	Jun-14	Jul-14	Jul-15	Aug-15
Rosneath	Jun-14	Jul-14	Jul-15	Aug-15
Malvern	Jul-14	Aug-14	Aug-15	Sep-15
Olivers Mount	Jul-14	Aug-14	Aug-15	Sep-15
Salisbury	Aug-14	Sep-14	Sep-15	Oct-15
Bristol Ilchester Crescent	Aug-14	Sep-14	Sep-15	Oct-15
Hastings	Sep-14	Oct-14	Oct-15	Nov-15
Saddleworth	Sep-14	Oct-14	Oct-15	Nov-15

SCHEDULE 4

Transmission Fee

1. Introduction

The following pricing principles govern the calculation of the Transmission Fee and Arqiva undertakes that it shall not depart from the application of these pricing principles in the calculation or recovery of the Transmission Fee.

2. Network Access

Network Access WACC

Network Access will be priced using a Weighted Average Cost of Capital of 7.71% pre tax real which will be applied to the existing Regulatory Assets Base (RAB); and the new Network Access assets created during the 600 MHz Network Access Programme which together are used for the provision of Network Access for the duration of the Term.

2.1 Charges And Pass-Through Costs

Summary and Breakdown of Charges and indicative Pass-Through Costs

2.1.1 The Charges, and an explanation of the breakdown of the Charges and indicative Pass-Through Costs, are as follows:

Table 1: Summary and Breakdown of post-600 MHz Network Access Programme Charges and indicative Pass-Through Costs

Line Item	<u>£000's (June 2011 prices)</u>	Charges Per Mux £000's	Total £000's
1	Charges for return on existing assets	2,657	7,970
2	Charges for depreciation on existing assets	1,084	3,251
3	Charges for non Pass-Through Operating Costs	1,953	5,859
4	Charges for Adjustments	-	-
5	Charges for existing assets	5,693	17,080
6	Charges for return on Capital Expenditure	1,830	5,490
7	Charges for Depreciation on Capital Expenditure	3,301	9,904
8	Charges for Adjustments	-	-
9	Charges for Capital Expenditure	5,131	15,394
10	Charges excluding Uplift for Contingencies and Pass-Through Costs	10,825	32,474
11	Charges for Uplift for Contingencies	513	1,539

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12	Total Charges	11,338	34,013
13	Pass-Through Costs (indicative, excluding electricity)	318	954
14	Total Charges plus indicative Pass-Through Costs	11,656	34,967

Note 1: The breakdown above reflects the first full year following the 600 MHz Network Access Programme - see paragraph 2.3.13 below regarding the calculation of Adjustments.

Note 2: The Uplift for Contingencies has been included to provide a best estimate of the likely costs of providing Network Access, in accordance with the Ofcom Guidance "Terrestrial Transmission Market Review: Updated general guidance for setting of charges and review mechanism" dated 31 July 2006. The Charges will be reviewed under the process set out in paragraph 3 (Network Access Gainshare Mechanisms).

2.1.2 For the purposes of this Agreement, the defined term "Charges" means the charges set out in line item 12 entitled "Total Charges" in Table 1 at paragraph 2.1.1 above. The Charges accordingly include the Charges for Uplift for Contingencies and exclude Pass-Through Costs.

2.1.3 "Pass-Through Costs" has the meaning given to it in paragraph 2.2 below.

Summary of Charges and indicative Pass-Through Costs during the 600 MHz Network Access Programme

2.1.4 The Charges and indicative Pass-Through Costs outlined above in Table 1 are on a per annum basis for post completion of the 600 MHz Network Access Programme (i.e. first full year following completion of the 600 MHz Network Access Programme). The Charges and Pass-Through Costs shall become payable on a Station by Station basis over the 600 MHz Network Access Programme as detailed in Schedule 14, increasing annually as set out in Table 2 below, subject to Clause 9.2. For the avoidance of doubt, these Charges take account of the price for the service credits payable under this Agreement.

Table 2: Summary of Charges and indicative Pass-Through Costs during the 600 MHz Network Access Programme.

Financial Years (July-June)	Total Charges (£'000)	Indicative Pass Through Costs (£'000)	Total Charges plus indicative Pass-Through Costs (£'000)
2013/14	2,803	79	2,882
2014/15	7,150	201	7,350
2015/16	9,852	276	10,128
2016/17	11,174	314	11,488
2017/18	11,338	318	11,656

Note: All figures stated in June 2011 prices.

Basis of Charges and indicative Pass-Through Costs in Table 1 and Table 2

2.1.5 The Charges and indicative Pass-Through Costs set out in Table 1 at paragraph 2.1 are stated on a per annum basis for Network Access based on the specifications set out in

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Schedule 6 and subject to the terms of this Agreement. The Charges and indicative Pass-Through Costs included in Table 2 at paragraph 2.1.4 above are the charges for Network Access based on the Baseline Specification and subject to the terms of this Agreement for the relevant 12 month period. The Charges and indicative Pass-Through Costs set out in Table 1 at paragraph 2.1.1 and included in Table 2 at paragraph 2.1.4 above are stated:

- (i) in real terms at June 2011 prices and are subject to indexation (see paragraph 2.3.8 below); and
- (ii) exclusive of VAT.

2.1.6 Table 1 at paragraph 2.1.1 above sets out, and the amounts in Table 2 at paragraph 2.1.4 above include, an indicative estimate of Pass-Through Costs. Paragraph 2.2 below sets out the terms applicable to Pass-Through Costs.

2.1.7 The Charges and indicative Pass-Through Costs included in Table 2 at paragraph 2.1.4 above represent the total charge for the relevant financial year, covering the period of the 600 MHz Network Access Programme to the first full steady state financial year (expected to be 2018/19). The payment profile for the total charge for a financial year depends upon the 600 MHz Network Access Programme through that financial year, so the monthly charge cannot be derived by dividing the relevant annual charge in Table 2 by twelve.

2.2 Pass-Through Costs

Categories of Cost included in Pass-Through Costs

2.2.1 In addition to the Charges, the Customer shall pay a share (as further detailed below) of the following categories of costs on a pass-through basis:

- (i) rent and similar recurring and non-recurring licence fees or other ancillary payments made to site and site access providers;
- (ii) rates, assessments and outgoings and any taxes or environmental levies whether similar or of a wholly new or novel nature;
- (iii) electricity for Customer Equipment;
- (iv) charges payable under any Arqiva Licence for spectrum required to be held by Arqiva in order to provide any Common Equipment for Network Access and where the relevant spectrum is not otherwise licensed to the Customer or the other 600 MHz DTT Multiplex Licensees;
- (v) any other costs, charges and fees (including fees for legal, planning, surveyor, engineering and other professional services) which may be required to be paid to a Landlord or other third party under the terms of the relevant lease/licence or otherwise as a result of or in connection with the provision of Network Access to the Customer at a particular Station;
- (vi) any Ofcom fees incurred by Arqiva in relation to regulated activity; and
- (vii) reasonable administration costs incurred by Arqiva in arranging for the provision of any Pass-Through Cost item,

(together, the "**Pass-Through Costs**"). The Customer's share shall be calculated on a Station-by-Station basis, using the following methodology:

- (viii) Arqiva shall first calculate the total amount of Pass-Through Costs (except electricity for Customer Equipment and except for any directly attributable Pass-Through costs) incurred by Arqiva at each Station in respect of the

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provision of Network Access to all DTT Multiplex Services and in the provision of Station facilities to all other customers at that Station;

- (ix) Arqiva shall then determine each customer's share of the total Pass-Through Costs (including the Customer's share) at each Station on a fair and reasonable basis that is reflective of the attributes/criteria that incur/drive these Pass-Through Costs. The parties shall use all reasonable endeavours to agree such basis within 6 months of the Execution Date. The Customer's share shall be this amount, plus (i) any directly attributable Pass-Through Costs, and (ii) the total cost of electricity for its Customer Equipment in the relevant period;
- (x) In procuring electricity required for the operation of the Equipment, Arqiva shall use all reasonable endeavours to ensure best value for itself and in turn for the Customer.

2.2.2 Table 1 at paragraph 2.1.1 above sets out an indicative estimate of Pass-Through Costs. The amounts set out in Table 2 at paragraph 2.1.4 above also include indicative estimate of Pass-Through Costs. These indicative estimates of Pass-Through Costs:

- (i) include indicative estimates of rent and rates; and
- (ii) exclude electricity for Customer Equipment as this cost is not yet known and will be determined by the specifications and characteristics including the dimensions of the Customer Equipment.

Where any leased Station as at the date of this Agreement changes to freehold, the Pass-Through Costs will for the duration of this Agreement include the last full year rental on this Site increased annually by RPI. Where a freehold Station as at the date of this Agreement becomes a leasehold site no rent from this Station will be included in the Pass-Through Costs.

Charging and Reconciling the Pass-Through Costs

2.2.3 Commencing with the first Year in which the Customer is expected to be invoiced for the Charges, Arqiva shall forecast the Pass-Through Costs likely to be payable by the Customer during that Year ("Forecast Pass-Through Costs") on a Station by Station basis. Arqiva shall conduct such forecast and notify the Customer of the Forecast Pass-Through Costs by, at the latest, the end of April prior to the start of the relevant Year.

2.2.4 The Forecast Pass-Through Costs shall be divided by 12 to provide a monthly amount applicable for the relevant Year, and this amount shall be payable by the Customer in accordance with Clause 9. For the first Year in which the Forecast Pass-Through Costs are expected to be payable, the Forecast Pass-Through Costs shall be divided by the number of months from the Target Access Date for the first Station to the following June.

2.2.5 As soon as reasonably practical and no later than 4 months after the end of the relevant Year, or as soon as possible following the end of the Term, the Customer's share of actual Pass-Through Costs for the relevant Year ("Actual Pass-Through Costs"), determined in accordance with paragraph 2.2.1 above, will be compared to the Forecast Pass-Through Costs for the relevant Year. Any overpayment or underpayment by the Customer shall be notified in writing by Arqiva. In the event of any overpayment by the Customer, Arqiva shall issue the Customer with a credit note to the value of any overpayment within thirty (30) days, save where no more Charges are due from the Customer to Arqiva, in which case the Customer shall pay the amount within thirty (30) days. In the event of any underpayment, Arqiva shall issue an invoice to the Customer for this amount, such invoice being payable in accordance with the terms of this Agreement.

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2.2.6 Arqiva shall, on the Customer's written request and subject to payment by the Customer of Arqiva's reasonable incurred costs, provide copies of all documentation evidencing and/or supporting the calculation of the Actual Pass-Through Costs for any Year. Arqiva shall not however, be required to provide copies of such documentation to the Customer where by so doing Arqiva would be in breach of or otherwise contravene confidentiality or contractual commitments with other customers or users of Station facilities. Under these circumstances Arqiva will ensure that a reputable third party independently validates that the Customer's Pass-Through Costs have been derived and/or calculated in accordance with the methodology agreed between Arqiva and the Customer, as anticipated in paragraph 2.2.1 of this Schedule and provide confirmation of such independent validation to the Customer on request. The Customer shall not be entitled to request this information more frequently than once per annum. Arqiva shall provide such information promptly and in any event within thirty (30) days, of the Customer's written request.

2.3 Explanation Of Charges And Pass-Through Costs

2.3.1 This paragraph 2.3 details the key parameters that underpin the calculation of the Charges. Changes in the assumptions or parameters set out in this paragraph 2.3 (except those set out in paragraphs 2.3.8 to 2.3.13) may also have an impact on the level of Pass-Through Costs, but any changes in such level shall be governed by paragraph 2.2 of this Schedule.

2.3.2 The Charges and Pass-Through Costs are based on the specifications set out in Schedule 6 and are subject to the terms of this Agreement.

2.3.3 The Baseline Specification is based on the assumption that Network Access will be provided to 3 600 MHz DTT Multiplex Services at the Stations. In the event that there is an additional DTT Multiplex Service or DTT Multiplex Services, this would affect the Charges and it is likely that the Charges would decrease, while a decrease in the number of DTT Multiplex Services may result in an increase in certain elements of the Charges. For the avoidance of doubt, a decrease in the number of DTT Multiplex Services would not result in an increase in the elements of the Charges relating to return or depreciation on Capital Expenditure, or Charges for Uplift for Contingencies (line items 6, 7, 8, 9 and 11 of Table 1 in this Schedule 4, as Arqiva is able to recover any relevant costs through the termination payments under the relevant Network Access agreements. Operating costs to be recovered through the Charges are calculated based on an appropriate allocation of costs to the provision of Network Access. If the number of DTT Multiplex Services changes, the Charges may need to be amended to reflect a revised allocation of operating costs across the remaining DTT Multiplex Services (including the Customer's 600 MHz Multiplex) in respect of which Arqiva continues to provide Network Access. The level of Pass-Through Costs may also vary if the number of DTT Multiplex Services or other users of Station Facilities at the Station should change.

2.3.4 Arqiva may vary the Charges to the extent there is an appropriate change in the allocation of common costs to DTT Network Access as a result of the cessation of the provision of Network Access to the AM and/or FM radio platforms or other DTT Multiplex Services. Any such reallocation shall take into account the introduction or expected introduction of new services. The cessation of Network Access provision to the existing AM and/or FM radio platforms other DTT Multiplex Services is likely to result in an increase in Charges. The introduction of new services is likely to offset any such increase in the Charges and may result in a decrease in Charges. Arqiva may not vary the Charges in connection with change or cessation of the provision of radio MTS (including, without limitation, in respect of AM, FM or digital radio).

2.3.5 The Charges and Pass-Through Costs are based on the assumption that the Customer requires Network Access at all the Stations listed in Schedule 6. In the event that the Customer requires access to more Stations, this would affect the Charges and Pass-Through Costs and it is likely that the Charges and Pass-Through Costs would increase. Any change to the Charges for this reason will reflect a revised allocation across all 600 MHz DTT Multiplex Services (or relevant Stations, as applicable) on the basis of the costing and calculation methodologies set out in this Schedule 4 and which have been agreed between Arqiva and Ofcom as part of Ofcom's guidance process.

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- 2.3.6 The Charges and Pass-Through Costs are based on Network Access being provided in accordance with the 600 MHz Network Access Programme and the Ofcom Provisional Specification.
- 2.3.7 The Charges and Pass-Through Costs are based upon the provision of Network Access through to [1 October 2026].
- 2.3.8 The Charges are subject to indexation as further detailed in Clause 9.2.
- 2.3.9 The Charges reflect costing and calculation methodologies that have been agreed between Arqiva and Ofcom as part of Ofcom's guidance process.
- 2.3.10 In the calculation of the Charges the return on existing assets and the return on Capital Expenditure is calculated using the real pre-tax Applicable WACC which at the date of this Agreement is calculated at 7.71% ("Applicable WACC").
- 2.3.11 The values of existing assets and Capital Expenditure over the Term are calculated using a depreciated replacement cost methodology with asset lives reflecting the useful economic lives of these assets.
- 2.3.12 Depreciation is calculated in line with a depreciated replacement cost methodology on a straight line basis using asset lives that reflect the useful economic lives of these assets.
- 2.3.13 Adjustments are applied to smooth the post 600 MHz DTT Network Access Programme Charges over the Term and to allow for the delay between rollout capital expenditure and the initiation of invoicing for the Charges pursuant to Clause 9. To make both of these adjustments the un-adjusted Charges are changed to the required adjusted profile whilst ensuring that the Net Present Value of the Charges (using the Applicable WACC as a discount rate) is equal both before and after the adjustments.
- 2.3.14 The Charges assume any Customer exclusive programme distribution and connectivity equipment will be located inside the accommodation location areas designated and set aside at each Station by Arqiva to house Customer Equipment for television broadcasting purposes.

3. Network Access Gainshare Mechanisms

The Network Access Fees shall be subject to the gainshare mechanism set out below. The Network Access Fees shall be based on the actual levels of capital costs incurred by Arqiva in the 600 MHz Network Access Programme and Pass-Through Costs incurred by Arqiva on an ongoing basis in the provision of Network Access in connection with this Agreement.

Within twelve (12) months of the completion of the 600 MHz Network Access Programme, Arqiva shall carry out a review to establish the actual level of capital expenditure incurred which will then, subject to the remainder of this Paragraph 3 of Schedule 4 be used to establish the Network Access Fees. For the avoidance of doubt, nothing in this Schedule is intended to, or shall operate so as to, limit or cap in any way Arqiva's expenditure in relation to the 600 MHz Network Access Programme.

- 3.1 Arqiva shall undertake a review of the Capital Expenditure and Uplift for Contingencies elements of the Charges in accordance with the provisions of this paragraph 3 of Schedule 4 in order to compare:
- 3.1.1 the level of actual capital expenditure employed in carrying out the 600 MHz Network Access Programme up to the date of completion of the same in respect of the Customer ("Actual Capex"); with
- 3.1.2 the sum of:
- (i) the Capital Expenditure as adjusted for RPI indexation ("**Revised Base Capex**"); plus

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- (ii) the Uplift for Contingencies as adjusted for RPI indexation ("**Revised Uplift for Contingencies**"),

such sum known as the "**Revised Forecast Capex**" for the purposes of this Schedule.

3.2 In the event that there have been any changes made pursuant to the Change Control Procedure prior to the Review which have either increased or decreased the Actual Capex, the net sum of any such increases or decreases shall be added onto both the Revised Base Capex and the Revised Forecast Capex figure prior to Arqiva conducting the comparative calculation set out in this paragraph 3.1.

3.3 Following performance of the Review and completion of the independent audit of the Review (pursuant to paragraphs 3.1 and 3.2 respectively of this Schedule 4 above):

3.4 If Actual Capex is more than the Revised Forecast Capex, the Charges shall be amended such that, from completion of the 600 MHz Network Access Programme or such other date as the parties agree is appropriate in light of the timing of the Review, they are based on a level of capital expenditure which is equal to:

3.4.1 Actual Capex; less

3.4.2 Fifty per cent. (50%) of the differential between Actual Capex and Revised Forecast Capex,

which will replace the charges (set out in Table 1 above, line items 9 and 11) in respect of Capital Expenditure and the Charges for Uplift for Contingencies.

3.5 If Actual Capex is less than the Revised Forecast Capex, the Charges shall be amended such that, from completion of the 600 MHz Network Access Programme or such other date as the parties agree is appropriate in light of the timing of the Review, they are based on a level of capital expenditure which is equal to:

3.5.1 Revised Forecast Capex; less

3.5.2 Fifty per cent. (50%) of the differential between Revised Forecast Capex and Actual Capex,

which will replace the Charges (set out in Table 1 above, line items 9 and 11) in respect of Capital Expenditure and the Charges for Uplift for Contingencies.

3.6 Any amendments to the Charges effected under this Schedule 4 shall reflect changes in 600 MHz Network Access Programme capital expenditure only. No other factors shall be taken into consideration when Arqiva undertakes the calculations set out in paragraph 3.1 above, other than any differences between forecast and actual timing of cash flow. Where the Review is completed after the completion of 600 MHz Network Access Programme (or such other date as the parties agree the Charges should be amended from as determined above) an appropriate adjustment to the Charges shall be made to reflect any difference between: (i) actual Charges invoiced between completion of the 600 MHz Network Access Programme (or such other date as referred to above) and the date of completion of the Review; and (ii) the amended Charges as determined under paragraph 3.4 or 3.5 above.

4. **Managed Transmission**

4.1 Arqiva will receive a project return of 10% pre-tax, real calculated as an IRR on the capital expenditure in relation to the Managed Transmission Elements over the term of this Agreement and labour costs relating to the Managed Transmission Elements of the 600 MHz Transmission Programme.

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- 4.2 Arqiva's third party capital expenditure for building the Managed Transmission Elements in accordance with the Baseline Specification is capped and will not exceed £23.134 million.
- 4.3 In the event that Arqiva's aggregate third party capital expenditure is less than £23.134 million then the saving thus achieved shall be shared between Arqiva and the Customer in the following proportions:

Table 3 - MTS capex gain share

Total MTS Capital Costs (Customer's proportion) All figures stated in £,000		Customer	Arqiva
More than or equal to	Less than		
23,134	-	0%	100%
22,671	23,134	75%	25%
22,440	22,671	65%	35%
21,977	22,440	55%	45%
-	21,977	50%	50%

- 4.4 The above bands shall be applied sequentially. So, for example, if Arqiva's aggregate capital expenditure for building the Managed Transmission Elements is £21.600 million then: (a) £0.463 million will be shared between the Customer and Arqiva in the proportions of 75% and 25% (respectively); (b) £0.231 million will be shared between the Customer and Arqiva in the proportions of 65% and 35% (respectively); (c) £0.463 million will be shared between the Customer and Arqiva in the proportions of 55% and 45% (respectively); (d) £0.377 million will be shared between the Customer and Arqiva in the proportions of 50% and 50% (respectively).
- 4.5 Arqiva shall, prior to the commencement of the 600 MHz Transmission Programme, provide to the Customer a revised forecast of overall capital expenditure for building the Managed Transmission Elements and if applicable a calculation of the likely reduction in the Managed Transmission Fee. Upon completion of the 600 MHz Transmission Programme, the parties shall carry out a reconciliation between Arqiva's actual and forecasted capital expenditure in building the Managed Transmission Elements. In the event that Arqiva's actual capital expenditure is less than the capital expenditure cap as detailed in Paragraph 4.2 above (adjusted through any Change Control), the saving thus achieved shall be shared between Arqiva and the Customer as set out above. The parties agree that Arqiva's share of the savings shall not be due as a one-off fee and instead shall be recovered over the Term through the pricing methodology outlined in Paragraph 4.1 above. To this end Arqiva's share of the savings shall be added to the actual capital expenditure of the Managed Transmission Elements to produce a post incentive Managed Transmission Element capital expenditure figure and this figure shall be used in generating the Managed Transmission Fee using the 10% IRR methodology as described in Paragraph 4.1. For the avoidance of doubt, in generating the Managed Transmission Fee using the methodology described in Paragraph 4.1, the calculation will take account of the actual Transmission Fees paid by the Customer up until that point so that the future Transmission Fee will be set so that Arqiva achieves that project return over the whole of the Term.

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- 4.6 The parties acknowledge that the provisions in this Paragraph 4 are without prejudice to the fact that Arqiva's capital expenditure levels may be varied to reflect Changes to the 600 MHz Transmission Programme through the Change Control Procedure and that the Change Control Procedure is the exclusive means of implementing Changes which would result in the cap referred to in Paragraph 4.2 being increased. Any Changes agreed under the Change Control Procedure will protect gain shares and pain-shares on a like-for-like (quantum, not percentage) basis and caps may be reset accordingly if additional capex or labour is required to deliver the Change.
- 4.7 The Managed Transmission Fee shall increase annually as set out in table 4 below:

Table 4: Summary of Managed Transmission Fee and Indicative Pass-Through Costs.

Financial Years (July-June)	Total Charges (£'000)	Indicative Pass Through Costs (£'000)	Total Charges plus indicative Pass-Through Costs (£'000)
2013/14	962	248	1,210
2014/15	2,452	634	3,086
2015/16	3,379	873	4,252
2016/17	3,833	990	4,823
2017/18	3,889	1,005	4,894

Foreign Exchange Risk

- 4.8 To the extent that Equipment (or related services) required for the Managed Transmission Elements are sourced from suppliers which are based overseas, Arqiva shall bear the risk of any foreign exchange fluctuations.

5. **Transmission Fee**

- 5.1 The Transmission Fee is a combined fee comprising Network Access Fees and Managed Transmission Fee, as described below in Table 5:

5.2 Table 5

	Charges per multiplex (£'000)
Network Access Fee	11,338
Managed Transmission Fee	3,889
Transmission Fee	15,227
Network Access Pass Through	318
MTS Electrical Charge (indicative)	1,005
Total Fee (indicative)	16,550

- 5.3 The Transmission Fee ramps up over the 600 MHz Transmission Programme based on a revenue phasing profile which reflects the population coverage weightings for the Stations set out in Table 4 of Schedule 12.

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- 5.4 During the 600 MHz Transmission Programme, the Transmission Fee will be subject to annual indexation in accordance with Clause 9.2.
- 5.5 The annualised pricing of the Transmission Fee (excluding electricity and any Pass-Through Costs) will be calculated in accordance with paragraphs 2 and 4 of this Schedule and is dependent on the Term.
- 5.6 For the avoidance of doubt the Transmission Fee does not include: (i) Pass-Through Costs; or (ii) electricity required for the Transmission Service, which shall be payable in addition by the Customer.

6. Electricity

Electricity (for the Transmission Service) is chargeable to the Customer at cost plus a reasonable allocation of Arqiva's costs for management and administration.

An example illustrating how electricity charges are calculated is set out at Schedule 17. Arqiva will use its reasonable endeavours to seek to obtain the best value possible from its electricity supply providers and will seek to establish further fixed price arrangements as regards the energy charge element of electricity costs for a set duration following the end of the initial fixed price period referred to above so as to give financial stability for the longest practical period, taking into account all relevant factors including the requirements of Arqiva's other customers and Arqiva itself as a consumer of electricity. Arqiva will keep the Customer informed as regards its electricity purchasing strategy.

SCHEDULE 5

Stations

600 MHz Upper 50 Sites	
Station Number	Station Name
12300	Angus
13600	Beacon Hill
12000	Belmont
11600	Bilsdale
10500	Black Hill
13500	Blaenplwyf
15800	Bluebell Hill
13402	Bressay
18900	Burnhope
13700	Caldbeck
13100	Caradon Hill
11900	Carmel
15500	Chatton
18800	Chillerton Down
14700	Craigkelly
10100	Crystal Palace
15200	Darvel
10700	Divis
11300	Dover
11200	Durris
15400	Eitshal
10400	Emley Moor
12500	Hannington
13900	Heathfield
13800	Huntshaw Cross
13400	Keelylang Hill
15300	Knockmore
18200	Lichfield
11800	Llanddona
11000	Mendip
12500	Midhurst
14500	Moel y Parc
11700	Oxford
12900	Presely
14100	Redruth
14900	Ridge Hill
15600	Rosemarkie
14800	Rumster Forest
12400	Sandy Heath
16100	Selkirk
13200	Stockland Hill
11500	Sudbury
11400	Tacolneston
12100	The Wrekin
10510	Torosay

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11100	Waltham
10600	Wenvoe
10300	Winter Hill

600 MHz Lower 30 Sites	
Station Number	Station Name
10606	Aberdare
10203	Brierley Hill
11008	Bristol Ilchester Crescent
11007	Bristol Kings Weston
10206	Bromsgrove
10405	Chesterfield
10903	Fenham
10211	Fenton
10101	Guildford
13902	Hastings
10105	Hemel Hempstead
10413	Idle
10407	Keighley
10601	Kilvey Hill
10335	Lancaster
10208	Lark Stoke
10207	Malvern
11101	Nottingham
12002	Olivers Mount
10302	Pendle Forest
13105	Plympton
10615	Pontypool
10103	Reigate
15211	Rosneath
10306	Saddleworth
10801	Salisbury
10403	Sheffield
10307	Storeton
10104	Tunbridge Wells
10805	Whitehawk Hill

The Upper 50 Sites are Station Service Category 'A' Stations

The Lower 30 Sites are Station Service Category 'B' Stations

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SCHEDULE 6
Baseline Specification

See attached

600MHz Proposal for Upper 50 Stations : Triple Layer design (Layer 9)														
Station Details					Main Antenna					Reserve Antenna				
Station No.	Station	Antenna Main & Reserve or Split	Layer 9 UHF Channel Nos	Pattern Restriction Requested	Main Antenna	Ant Height (m)	Nominal Operational ERP (kW)	Nominal Operational ERP Relative to OFCOM Provisional ERP (dB)	Transmitter Power (kW)	Reserve Antenna	Reserve ERP kW	Maximum Reserve Antenna ERP relative to Nominal Operational Main Antenna ERP	SIM	SFN/GROUP
Antenna Category 1: Full Ofcom requested ERP available from existing antennas														
10500	Black Hill	Split	36	No	Former C5 - 8T of 4 panels (skew)	256	100	0	8.5	Half Antenna Working	50	-3.01	YES	
13402	Bressay	Main & Reserve	36	No	Share Existing DSO Main Antenna	77	2	0	0.2	Share Existing DSO Reserve Antenna	1	-3.01	YES	
15200	Darvel	Split	36	Yes	Former C5 - 4T of 8 panels	110	20	0	3	Half Antenna Working	10	-3.01	YES	
15400	Eitshal	Main & Reserve	36	No	Share Existing DSO Main Antenna	167	20	0	1.5	Share Existing DSO Reserve Antenna	10	-3.01	YES	
13900	Heathfield	Split	36	Yes	Former D1 - 4T of 2 panels	101	20	0	2.1	Half Antenna Working	10	-3.01	YES	YES/ 12
18200	Lichfield	Split	36	No	Former C5 - 14T of 3 panels (skew)	299	200	0	7.5	Half Antenna Working	100	-3.01	YES	YES/ 4
15300	Knockmore	Split	36	No	Former D1 - 4T of 12 panels (cogged)	62	20	0	3.5	Half Antenna Working	5	-6.02	YES	
Antenna Category 2: Reduced ERP (relative to Ofcom requested ERP) available from existing antennas														
12000	Belmont	Split	36	Yes	Former D1 - 4T of 4 panels (skew)	222	34	-7.7	6.4	Half Antenna Working	17	-3.01	YES	
15800	Bluebell Hill	Main & Reserve	36	Yes	Share Existing DSO Reserve Antenna	49	2	-10.0	0.35	Share Existing DSO Main Antenna	1	-3.01	YES	
13700	Caldbeck	Main & Reserve	36	Yes	Share Existing DSO Main Antenna	331	18	-7.4	2.5	Share Existing DSO Reserve Antenna	19.16	-0.79	YES	
11900	Carmel	Main & Reserve	36	No	Share Existing DSO Reserve Antenna	124	10	-3.0	1.4	Share Existing DSO Main Antenna	2	-6.99	YES	YES/ 2
14700	Craigkelly	Main & Reserve	36	No	Share Existing DSO Main Antenna	131	9	-3.5	1.5	Share Existing DSO Reserve Antenna	6.82	-1.20	YES	
10100	Crystal Palace	Main & Reserve	36	Yes	Share Existing DSO Main COM Antenna	204	20	-10.0	2.1	Share Existing DSO Reserve Antenna	10	-3.01	YES	YES/ 3
11200	Durris	Main & Reserve	36	No	Share Existing DSO Main Antenna	315	45	-3.5	3.5	Share Existing DSO Reserve Antenna	25	-2.55	YES	
10400	Emley Moor	Split	36	No	Former C5 - 4T of 21 panels	279	65	-4.9	13	Half Antenna Working	32.5	-3.01	YES	YES/ 6
12500	Hannington	Main & Reserve	36	Yes	Share Existing DSO Main Antenna	142	10	-7.0	0.7	New (separate Category 3 entry)	NA	NA	YES	
13400	Keelylang Hill	Main & Reserve	36	No	Share Existing DSO Main Antenna	52	10	-3.0	0.6	Share Existing DSO Reserve Antenna	5	-3.01	YES	
11800	Llandona	Main & Reserve	36	Yes	Share Existing DSO Main Antenna	112	3.2	-8.0	0.3	Share Existing DSO Reserve Antenna	1.6	-3.01	YES	YES/ 11
12500	Midhurst	Main & Reserve	36	Yes	Share Existing DSO Main Antenna	113	2	-10.0	0.3	Share Existing DSO Reserve Antenna	1	-3.01	NO	YES/ 10
14500	Moel y Parc	Main & Reserve	36	Yes	Share Existing DSO Main Antenna	236	4	-7.0	0.4	Share Existing DSO Reserve Antenna	4	0	YES	YES/ 11
14100	Redruth	Main & Reserve	36	Yes	Share Existing DSO Main Antenna	161	2	-10.0	0.25	Share Existing DSO Reserve Antenna	1	-3	YES	
14900	Ridge Hill	Main & Reserve	36	No	Share Existing DSO Main Antenna	162	5	-6.0	0.6	Share Existing DSO Reserve Antenna	2	-3.98	YES	
15600	Rosemarkie	Main & Reserve	36	No	Share Existing DSO Main Antenna	122	10	-3.0	1.1	Share Existing DSO Reserve Antenna	6.87	-1.63	YES	
11400	Tacolneston	Main & Reserve	36	Yes	Share Existing DSO Reserve Antenna	163	10	-10.0	0.7	Share Existing DSO Main Antenna	5	-3.01	YES	YES/ 1
12100	The Wrekin	Split	36	No	Share Existing DSO Antenna	59	2	-10.0	0.2	Half Antenna Working	1	-3.01	NO	YES/ 4
10600	Torosay	Main & Reserve	36	No	Share Existing DSO Main Antenna	51	2	-3.0	0.21	Share Existing DSO Reserve Antenna	1	-3.01	YES	
10300	Wenvoe	Main & Reserve	36	Yes	Share Existing DSO Main Antenna	258	50	-3.0	3	Share Existing DSO Reserve Antenna	50	0	YES	YES/ 7
10300	Winter Hill	Split	36	Yes	Former D3 - 4T of 14 panels (+1 dummy)	237	33	-4.8	8	Half Antenna Working	8	-6.15	YES	YES/ 5
Antenna Category 3: New antennas (ERPs as stated)														
12300	Angus	Split	36	No	6T of 12 panels	195	20	0	2.7	Half Antenna Working	10	-3.01	YES	
13600	Beacon Hill	Split	36	Yes	4T of 3 panels	59	20	0	2.5	Half Antenna Working	10	-3.01	YES	
11600	Bilsdale	Split	36	No	8T of 4 panels	305	100	0	7.9	Half Antenna Working	50	-3.01	YES	
13500	Blaenplwyf	Split	36	Yes	4T of 3 panels	93	40	0	3.7	Half Antenna Working	20	-3.01	YES	
18900	Burnhope	Split	36	No	16 tier slot antenna	215	87	-0.6	6.5	Half Antenna Working	43	-3.06	YES	
13100	Caradon Hill	Split	36	Yes	8T of 2 panels sidemount	192	100	0	5	Half Antenna Working	50	-3.01	YES	
15500	Chatton	Split	36	Yes	4T of 3 panels	105	20	0	2	Half Antenna Working	10	-3.01	YES	
18800	Chillerton HP	Split	36	Yes	10T of 2 panels (mixed polarization)	175	200	0	6	Half Antenna Working	50	-6.02	YES	YES/ 10
18860	Chillerton VP	Split	36	Yes	Shares Above	175	200	0	6	Half Antenna Working	50	-6.02	YES	YES/ 10
10700	Divis	Split	36	Yes	4T of 2 panels	137	100	0	10	Half Antenna Working	50	-3.01	YES	
11300	Dover	Split	36	Yes	10 tiers of 2 logs	204	100	0	6	Half Antenna Working	50	-3.01	YES	
12500	Hannington Reserve	Main & Reserve	36	Yes	4T of 3 panels	41	5	-10.0	0.7	NA	NA	NA	YES	
13800	Huntshaw Cross	Split	36	Yes	4T of 3 panels	133	20	0	2	Half Antenna Working	10	-3.01	YES	
11000	Mendip	Split	36	Yes	16 tier slot antenna	192	80	-1.0	6.5	Half Antenna Working	40	-3.01	YES	YES/ 9
11700	Oxford	Split	36	No	8T of 12 panels	86	100	0	9	Half Antenna Working	50	-3.01	YES	
12900	Presely	Split	36	Yes	4T of 3 panels	222	20	0	3.3	Half Antenna Working	10	-3.01	NO	YES/ 2
14800	Rumster Forest	Split	36	No	8 tier slot antenna	165	20	0	3.1	Half Antenna Working	10	-3.01	YES	
12400	Sandy Heath	Split	36	Yes	16 tier slot antenna	220	180	0	12.5	Half Antenna Working	70	-4.10	YES	
16100	Selkirk	Split	36	No	6T of 12 panels	218	10	0	1.4	Half Antenna Working	5	-3.01	YES	
13200	Stockland Hill	Split	36	Yes	4T of 3 panels sidemount	191	50	0	6.2	Half Antenna Working	12.5	-6.02	YES	
11500	Sudbury	Split	36	Yes	16 tier slot antenna	93	25	-6.0	1.9	Half Antenna Working	12.5	-3.01	NO	YES/ 1
11100	Waltham	Split	36	No	8T of 18 panels	270	50	0	4.3	Half Antenna Working	25	-3.01	YES	YES/ 8

DATE: 23 November 2011

600MHz Proposal for Lower 30 Stations : Triple Layer design (Layer 9)

Station Details					Main Antenna					Reserve Antenna				
Station No.	Station	Antenna Main & Reserve or Split	UHF Channel Nos.	Pattern Restriction Requested	Main Antenna	Ant Height (m)	Nominal Operational ERP (kW)	Nominal Operational ERP Relative to OFCOM Provisional ERP (dB)	Transmitter Power (W)	Reserve Antenna	Reserve ERP (kW)	Maximum Reserve Antenna ERP relative to Nominal Operational Main Antenna ERP	SIM	SFN/GROUP
Antenna Category 1: Full Ofcom requested ERP available from existing antennas														
10606	Aberdare	Split	36	No	Share Existing DSO B4 16 L Cardioid	50.7	0.1	0	10	Half Antenna Working	0.05	-3	YES	
11007	Bristol Kings Weston	Split	36	No	Former D1 - 4 tiers of 3 logs	40.0	0.2	0	60	Half Antenna Working	0.1	-3	NO	YES/ 9
10206	Bromsgrove	Split	36	No	Share Existing DSO B4 8 L Cardioid	53.5	0.4	0	80	Half Antenna Working	0.2	-3	NO	YES/ 4
10405	Chesterfield	Split	36	No	Share Existing DSO PSB B4 16 L Cardioid	49.6	0.4	0	50	Half Antenna Working	0.2	-3	NO	YES/ 6
10903	Fenham	Split	36	No	Share Existing DSO B4 16 L Cardioid	49.9	0.4	0	50	Half Antenna Working	0.2	-3	YES	
10413	Idle	Split	36	No	Share Existing DSO PSB B4 8 L Cardioid	48.7	0.05	0	10	Half Antenna Working	0.025	-3	YES	
10601	Kilvey Hill	Split	36	No	Former D1 - 4T of 2 panels	40.5	2	0	210	Half Antenna Working	1	-3	NO	YES/ 7
10335	Lancaster	Split	36	Yes	Share Existing DSO B4 16 L Cardioid	92.0	2	0	200	Half Antenna Working	1	-3	YES	
11101	Nottingham	Split	36	No	Share Existing DSO PSB B4 16 L Cardioid	51.0	0.4	0	40	Half Antenna Working	0.2	-3	NO	YES/ 8
10302	Pendle Forest	Split	36	No	Share Existing DSO B4 16 L Cardioid	50.6	0.1	0	10	Half Antenna Working	0.05	-3	YES	
10615	Pontypool	Split	36	No	Share Existing DSO B4 4 L Cardioids	49.3	0.05	0	10	Half Antenna Working	0.025	-3	NO	YES/ 7
10103	Reigate	Split	36	No	Former D1 - 2T of 3 panels	59.0	2	0	500	Half Antenna Working	1	-3	NO	YES/ 3
10307	Storeton	Split	36	No	Share Existing DSO Panel Antenna	48.0	0.56	0	60	Half Antenna Working	0.28	-3	NO	YES/ 5
Antenna Category 2: Reduced ERP (relative to Ofcom requested ERP) available from existing antennas														
10211	Fenton	Split	36	No	Share Existing DSO B4 16 L Cardioid	50.7	0.3	-8	50	Half Antenna Working	0.15	-3	YES	
10105	Hemel Hempstead	Split	36	No	Share Existing DSO Panel Antenna	72.8	1	-3	100	Half Antenna Working	0.5	-3	YES	
10407	Keighley	Split	36	No	Former D1 - 4L B4 cardioid	57.5	0.5	-6	100	Half Antenna Working	0.25	-3	YES	
10208	Lark Stoke	Split	36	No	Share Existing DSO B4 8 L Cardioid	21.0	0.5	-4	80	Half Antenna Working	0.25	-3	YES	
10403	Sheffield	Split	36	No	Share Existing DSO B4 8 L Cardioid	52.0	0.7	-2	100	Half Antenna Working	0.35	-3	YES	
Antenna Category 3: New antennas (ERPs as stated)														
10203	Brierley Hill	Split	36	No	4L cardioid sidemount (high power)	46.0	2	0	650	Half Antenna Working	1	-3	YES	
11008	Bristol Ilchester Crescent	Split	36	No	4L cardioid sidemount	46.0	0.2	0	80	Half Antenna Working	0.1	-3	NO	YES/ 9
10101	Guildford	Split	36	No	4L cardioid sidemount (high power)	46.0	2	0	680	Half Antenna Working	1	-3	NO	YES/ 3
13902	Hastings	Split	36	Yes	4 tiers of 2 crossed logs	44.0	1	0	150	Half Antenna Working	0.5	-3	NO	YES/ 12
10207	Malvern	Split	36	No	4L cardioid sidemount	39.5	0.4	0	150	Half Antenna Working	0.2	-3	YES	
12002	Olivers Mount	Split	36	No	4L cardioid sidemount (high power)	36.0	2	0	630	Half Antenna Working	1	-3	YES	
13105	Plympton	Split	36	No	4L cardioid sidemount	46.0	0.4	0	160	Half Antenna Working	0.2	-3	YES	
15211	Rosneath	Split	36	No	4L cardioid sidemount (high power)	99.0	2	0	850	Half Antenna Working	1	-3	YES	
10306	Saddleworth	Split	36	No	4L cardioid sidemount	46.0	0.4	0	160	Half Antenna Working	0.2	-3	NO	YES/ 5
10801	Salisbury	Split	36	No	4L cardioid sidemount (high power)	46.0	2	0	650	Half Antenna Working	1	-3	NO	YES/ 10
10104	Tunbridge Wells	Main & Reserve	36	No	4L cardioid sidemount (high power)	47.0	4	0	1300	Duplicate of Main Antenna	4	0	YES	
10805	Whitehawk Hill	Split	36	Yes	4 tiers of 5 logs	43.0	4	0	600	Half Antenna Working	2	-3	YES	

DATE: 15 November 2011

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SCHEDULE 7

Interfaces to the Transmission System

Introduction

This document describes the interface between the terrestrial Distribution System and the Transmission System. The Transmission System has been designed to accept two line feeds into each Station and it shall be the responsibility of the Customer to provide the Distribution System. The performance of the Distribution System shall be sufficient as to make it transparent to the devices connected either end.

Customer Signal Attributes

- 1) The Customer shall procure that feeds are provided by the Distribution Service Provider at the MTS Insertion Points. The network interface point shall be a patch panel in the immediate vicinity of the Equipment.

The Sites shall be provided with dual feeds and comply with the specification outlined below:

- a) Dual feeds to Site: Two physical Customer Signal presentations shall be made available at the MTS Insertion Point on each 'dual feed' designated transmitter Site. The dual feeds to each designated Site shall be known as A & B.
 - i) An 'A' feed at the inject point to the Distribution System shall be presented at the designated destination Site as an 'A' feed.
 - ii) A 'B' feed at the inject point to the Distribution System shall be presented at the designated destination Site as a 'B' feed.
 - iii) The Distribution Service Provider shall provide network switches prior to Customer Signal presentation. It is expected that the A&B feed Customer Signals shall be synchronous to permit seamless transport stream switching by the Distribution Service Provider. In the event of one path being unavailable within the Distribution System, two feeds will still be provided to the Transmission System.
- 2) Physical Interface – Copper Co-axial cable.
 - a) Physical Connector: Distribution Service Provider will present 75Ω BNC, fixed female.
 - b) ASI transport stream attributes shall conform to CENELEC EN50083-9:2002 (Electrical Interface).

- 3) Data formats:

The transport stream carried shall pertain to any format permissible in DVB, MPEG-2 as per ISO 13818-1: 2007, or future evolutions encapsulated in ASI transport stream.

- 4) Transport Rate:

The data transport rate presented at the destination shall be unchanged from the input transport rate. The actual bit rate shall be any constant rate set to the rates shown below depending on the broadcast standard required (DVB-T or DVB-T2) and the mode selected (in terms of FFT and FEC etc). The standards and modes

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supported by the Transmission System are those currently allowed to be licensed by Ofcom, and indicated in Tables 9.3 and 9.3b of the DTG's D-Book v7 Part A, and further refined in Annex G of that document. For the avoidance of doubt, the parameters from Tables 9.3 and 9.3b are reproduced below. Arqiva shall investigate the feasibility of supporting alternative modes on request:

OFDM Parameters	Values (Option 1)	Values (Option 2)	Values (Option 3)
Number of carriers	1705 (2K)	1705 (2K)	6817 (8K)
Modulation	64 QAM	16 QAM	64 QAM
Inner coding R_c	2/3	3/4	2/3
Guard interval (Δ/T_u)	1/32	1/32	1/32
TS data rate (Mbit/s)	24.1283422	18.0962567	24.1283422

Table 7.1: DVB-T Parameters from DTG D-Book Table 9.3

OFDM Parameters	Values (Option 4) DTG104	Values (Option 5) DTG106	Values (Option 6) DTG109
Number of carriers	6913 (8KE)	27841 (32KE)	27841 (32KE)
Modulation	64QAM	256 QAM	256 QAM
Inner coding R_c	4/5	3/5	2/3
Guard interval (Δ/T_u)	1/32	1/128	1/128
Pilot Pattern	PP7	PP7	PP7
Frame Length (data symbols)	242	59	59
Transport stream data rate	34.6880914	36.1407594	40.2146452

Table 7.2: DVB-T2 Parameters from DTG D-Book Table 9.3b

It should be noted that for the Layer 9 solution which is based on a large area SFN, the Guard Interval period of the currently licensable modes will be too short, and so a new modulation mode, with an appropriate change to the Guard Interval will need to be defined. Other than this change it is assumed that a minimum of other changes to modulation parameters will be required, but until the exact mode is defined, it will not be possible to fully confirm that the Transmission System will support the mode.

Where SFNs are required, additional distribution bandwidth will be required, to account for the overhead inherent in the encapsulation of the Service Stream within a DVB-T2 Modulator Interface stream. Depending on the modulation mode used for the SFN, this could require an additional capacity up to 10% of the payload data rate.

5) Transport Delay:

Distribution delay shall be stated and constant throughout the life of the Transmission Service.

- a) The received Customer Signal at the destination Sites shall be compliant with the required protocol.
- b) For the correct operation of single frequency networks ("SFNs"), the Transport stream shall be compliant to the appropriate data protocol and time stamped. See Schedule 21 in respect of SFN Issues.

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SCHEDULE 8

Customer Signals

1. Introduction

This Schedule 8 describes the required format of Customer Signals which shall be presented to Arqiva by the Customer at the MTS Insertion Points via the Distribution System.

2. Transport Streams, as per ISO 13818-1:2007

2.1 Content presented as transport stream must conform to CENELEC EN50083-9 :2002.

2.1.1 Arqiva require ASI Electrical interface presentation.

2.2 ASI streams presented must be in 'byte' mode.

2.2.1 The transport stream must include all components necessary to enable downstream Equipment and receiving devices to function correctly.

2.2.2 The content stream presented to Arqiva shall be required to pass all applicable TR 101 290 tests. Note that the Content Stream may be encapsulated within a DVB-T2 Modulator Interface (T2-MI) stream according to ETSI TS 102 773 v1.3.1. In this case, the encapsulated Content Stream must pass a different subset of TR 101 290 tests compared to those required for the distributed T2-MI stream.

2.2.3 Customer Signals must be stable and free of any intermittent effects or errors which cause system instability.

2.3 The ASI Customer Signal must be a constant data rate and must not be of a bursty nature (i.e. data packets must be evenly distributed in time at the point of delivery to Arqiva). Customer Signals shall not require the provision of any buffering or policing equipment to prevent interruption to other services or malfunction of other downstream devices including domestic STBs.

2.4 In order to ensure correct operation, Arqiva requires that:

2.4.1 The data rate including all carriage overheads shall be stated.

2.4.2 Any additional metadata capacity required must be declared.

2.4.3 The presentation data rate shall not vary by more than 1 kbit/s.

2.4.4 Nomenclature or identifiers used in the Customer Signals shall not clash or overlap with those used by existing services.

2.5 The addition of the Customer Signals shall not require any equipment configuration in excess of bandwidth allocation.

2.6 Data irregularities

2.6.1 The jitter of the content stream at any layer shall be $\leq 1\text{mSec}$.

2.6.2 The data stream shall not contain any errors at presentation.

2.6.3 Encryption of components or services shall not cause the content to deviate from full DVB/MPEG compliance.

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3. Content

All Customer Signals must comply with relevant Ofcom regulations.

4. Implementation

Reconfiguration and testing of systems to cater for a change in the Customer Signals will be handled under the Change Control Procedure and managed under a planned work notice.

Where relevant industry technical standards are introduced or existing standards are revised, any changes to the Transmission System will be handled under the Change Control Procedure and managed under a planned work notice.

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SCHEDULE 9

Monitoring and Control

1. **SYSTEM OVERVIEW**

Arqiva shall provide continuous monitoring and telemetry systems incorporating forward control at all Sites.

2. **TRANSPORT STREAM MEASUREMENTS**

The Multiplex Service Provider will be responsible for monitoring the relevant transport streams at the point of compression and multiplexing. Transport stream monitoring may be provided at the Stations at the discretion of Arqiva.

3. **SERVICE MANAGEMENT CENTRE**

Arqiva shall provide the facility of the SMC. At the SMC, operational staff shall monitor the status of the Transmission Service provided from the Stations and initiate controls as required to optimise the availability and performance of the Transmission Service. Equipment alarms and other abnormal status information will be brought to the attention of Arqiva operators as appropriate.

4. **TRANSMITTER SITE ALARM AND STATUS INFORMATION**

At each Station, the on-site control system will monitor the status of the transmission Equipment, including any reserve or standby Equipment and site infrastructure alarms. If a failure is detected then the control system will take action where appropriate to select redundant Equipment where available. Status information collated by the control system will be polled periodically and fed back to the SMC.

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SCHEDULE 10

Maintenance Objectives

1. TRANSMITTER SYSTEM

Preventive maintenance will be undertaken at all Sites and will include a programme of transmitter performance checks and general condition checks designed to optimise System availability. Such checks will be non-intrusive and/or non-service affecting so far as practicable.

2. TARGET RESPONSE TIMES

2.1 For the purposes of this Agreement, a "Target Response Time" shall mean the time between Arqiva first becoming aware of a Breakdown at a Station either through its own monitoring or by a confirmed report from the Customer or an audience contact and the arrival at the Station of suitably trained and skilled personnel to investigate and seek to remedy such Breakdown.

2.2 On becoming aware of a Breakdown, Arqiva shall attempt, as soon as possible, to resolve the Breakdown by such remote control facilities as are available.

2.3 In the event that Arqiva is able to establish and confirm with the relevant regional electricity company that a Breakdown is due to a loss of the incoming public mains electricity supply at the relevant Station and that Station does not have stand-by power facilities, then Paragraph 2.2 of this Schedule 10 shall not apply in respect of such Station until the relevant regional electricity company has confirmed with Arqiva that the public mains electricity supply has been restored.

2.4 In the event that any Breakdown is not resolved by remote control, the Target Response Time during which Arqiva shall endeavour to respond in relation to such Breakdown shall be as shown in the table in Paragraph 2.5 of this Schedule 10 provided that, in respect of a Breakdown due to the Distribution System or Multiplex Service, Arqiva shall only be required to respond at a particular Station where Arqiva's monitoring of the Distribution System or Multiplex Service indicates that such Breakdown is occurring in such of the Distribution System or Multiplex equipment as is located at such Station.

2.5 Target Response Times by Station Service Categories according to the time of commencement of Breakdowns shall be as shown in the table below:

Station Service Category	Target Response Time (hours) for Breakdowns commencing between 0800 and 1700, excluding weekends and bank holidays	Target Response Time (hours) for Breakdowns commencing at other times
A	2	3
B	3	4

2.6 For any Site with difficult access (as set out in Schedule 14), the Target Response Times in Paragraph 2.5 of this Schedule 10 shall not apply in respect of such Stations. If Arqiva becomes aware of any reason at any time why a Station which has not previously been classified as a Site with Difficult Access should now reasonably be judged to be classified as such, it shall notify the Customer and, where the Customer agrees that such Site should be so classified (such agreement not to be unreasonably withheld or delayed), such Site shall be re-classified and Schedule 14 updated accordingly.

2.7 For Breakdowns occurring at any Site with Difficult Access, Arqiva shall endeavour so far as reasonably practicable to respond within the applicable Target Response Time set out above but shall have no liability for any failure to respond within the Target Response Time.

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- 2.8 Notwithstanding anything to the contrary contained in this Schedule 10, Arqiva shall in any event:
- 2.8.1 attend to all Breakdowns as soon as reasonably practicable;
 - 2.8.2 preserve any data indicating the cause of any Breakdown;
 - 2.8.3 take all reasonable steps so as to remedy any Breakdown as soon as reasonably practicable and until such time as such Breakdown is remedied, so as to minimise the impact of such Breakdown on the provision of the Transmission Service; and
 - 2.8.4 take all reasonable, appropriate and necessary steps so as to prevent such Breakdown from recurring anywhere on the network.

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SCHEDULE 11

Total Time of Service Availability

1. The Total Time of Service Availability (TTSA) calculated as a moving average over the preceding twelve calendar months (if there are less than 12 months since the Actual Service Start Date, the TTSA for the balance of the 12-month measurement period prior to the Actual Service Start Date shall be taken to be 100%) shall be no less than the percentages of Regular Hours shown in Table 1 below for each Station according to its Station Service Category.

Table 1 - TTSA Targets

Station Service Category	First 12 months after Transmission Service commences	Thereafter
A	99.80	99.90
B	99.70	99.80
Stations appearing on the list of Sites with Difficult Access in Schedule 14	98.90	99.00

2. For the purpose of calculating whether the Total Time of Service Availability has been achieved at any Station, failures, interruptions or defects in transmission shall not count as a Breakdown to the extent that they result from any of the following:
 - (i) a failure or interruption resulting from the Customer's refusal to permit work proposed by Arqiva under Clause 7 or the carrying out of any work contemplated by and provided for in Clause 7;
 - (ii) where resulting from Arqiva's due compliance with safe working practices stipulated by the National Radiological Protection Board or any other health safety environmental or other law or generally recognised protocol or standard (whether or not having the force of law);
 - (iii) impairment of the quality of the Customer Signal due to abnormal propagation conditions;
 - (iv) any loss of transmission or impairment in the quality of the transmitted Customer Signal resulting directly from any of the matters for which the Customer has responsibility;
 - (v) where transmission is restored to a level greater than nominally -1dB with respect to normal ERP;
 - (vi) any fault requiring attendance at a Site during any period where such attendance is not permitted or is otherwise prevented as a consequence of a security alert or any other Force Majeure Event;
 - (vii) any failure or deficient provision of any element of the Transmission Service for which Arqiva has ceased to be responsible following termination in accordance with Clause 16;
 - (viii) a failure of the programme feed where such failure of the programme feed results from a non-accountable fault at the Station or that Station's parent Station;

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- (ix) unplanned interruptions to public mains supply at any Station which are beyond Arqiva's reasonable control and where there is no back-up generator or diverse supply included in the Transmission Service;
- (x) exceptional and unforeseeable weather including without limitation lightning, icing and high winds;
- (xi) a specific direction to Arqiva by Ofcom or the Customer;
- (xii) the failure or continued unavailability of the Global Positioning System (GPS) to the extent relied upon for the Transmission Service in respect of any Breakdown which does not commence until more than eight (8) hours after the GPS failure commences;
- (xiii) any impairment of the Transmission Service due to the unsatisfactory performance of any Rebroadcast Links (RBLs) which may be required as the result of a Change via the Change Control Procedure;
- (xiv) reductions in power of less than that shown in Table 2 at each Station Service Category as a result of a Transmitter System fault;
- (xv) reductions in power of less than that shown in Schedule 6 when operating in reserve Antenna condition;
- (xvi) an outage at Hannington Station due to an Antenna System fault prior to the installation and commissioning of the reserve Antenna at Hannington Station;
- (xvii) any fault requiring mast ascent during the hours of darkness or severe inclement weather where, in the reasonable judgement of Arqiva, a potential safety hazard exists;
- (xviii) any breach of this Agreement by the Customer;
- (xix) any interruption as a result of Arqiva complying with directions under Clause 11.1 or Clause 11.2;
- (xx) any interruption as a result of an engineering test transmission made at the request of the Customer;
- (xxi) any failure of the Customer, its agents, contractors or their subcontractors (not including Arqiva) to deliver the Customer Signals to Arqiva at the relevant MTS Insertion Points (including, for the avoidance of doubt, any failure of the Distribution Service Provider) in accordance with the requirements of this Agreement;
- (xxii) any interruption resulting from defects or failures in the equipment or services provided or operated by or on behalf of the Customer (other than Equipment which Arqiva is required to operate and maintain) PROVIDED that any such interruption resulting from loss of mains electricity supply for any reason shall count for the purposes of calculating Total Time of Service Availability unless the Customer has failed to discharge its responsibilities under this Agreement (including, without limitation, its obligations under Schedule 20);
- (xxiii) any breakdown or other fault in the Customer Signal caused by the Multiplex Service;

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- (xxiv) planned interruptions to the public mains supply at any Station where notification has been made by Arqiva to the Customer and approval has been obtained from the Customer in accordance with Clause 7;
- (xxv) planned interruptions, where notification has been made to the Customer representative and approval given by the Customer pursuant to Clause 7;
- (xxvi) a Force Majeure event to the extent not already covered by paragraphs (i) to (xxv) above;
- (xxvii) any interruption due to causes listed in this Schedule 11 at paragraph 3 as "Planned Works", provided that the time and duration of such works has been notified to and agreed by the Customer in advance in accordance with the procedures notified by Arqiva to the Customer from time to time;
- (xxviii) a delay of no more than 30 seconds in re-establishing Network Access when switching to alternative power supplies;
- (xxix) any other occurrence that the parties mutually agree not to treat as minutes lost; and/or
- (xxx) additional time spent waiting for or travelling via ferries or flights required for access to island Stations.

Table 2 – Power Reduction Allowed as a result of a Transmitter System Fault

Station Service Category	Power Reduction (dB)
A	3
B	6

3. PLANNED WORKS

- 3.1 For the purpose of calculating Total Time of Service Availability, the period of any interruption in provision of Transmission Services due to causes including any of the following events shall be counted as planned works and accordingly shall not count as a Breakdown pursuant to paragraph 2(xxvii) above:
- 3.1.1 maintenance or replacement of Antenna Systems and/or Transmitter System;
 - 3.1.2 maintenance or replacement of aircraft warning lights;
 - 3.1.3 painting of the Antenna support structure;
 - 3.1.4 replacement, strengthening or maintenance of the Antenna support structure, including greasing of stays;
 - 3.1.5 periodic inspections of the Antenna support structure, statutory or otherwise;
 - 3.1.6 periodic inspections of Antenna Systems carrying the transmitted service signal and/or Transmitter System;
 - 3.1.7 maintenance or replacement of Common Equipment;

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- 3.1.8 periodic inspections of equipment related to the permanent electricity supply, statutory or otherwise;
- 3.1.9 electricity meter changes; and
- 3.1.10 installation of infrastructure for third parties.

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SCHEDULE 12

Service Credits

1. At the end of each calendar month commencing from the Actual Service Start Date, the parties shall calculate the Total Time of Service Availability at each Station for Service Category A and B Stations in accordance with Schedule 11, over the preceding 12 calendar months, inclusive of the month just ended (or if less than 12 months from the Actual Service Start Date, the Total Time of Service Availability shall be assumed to be 100% for the months required to make up the 12-month measurement period).
2. If the Total Time of Service Availability over the relevant period is below the applicable Total Time of Service Availability target set out in Table 1 of Schedule 11 with respect to any individual Service Category A or B Station, Arqiva shall incur a liability to pay service credits to the Customer in respect of each such Station for Service Category A and B Stations in accordance with Paragraph 3 below. If the said 12-month period straddles two Total Time of Service Availability targets set out in Table 1 of Schedule 11 for the Station in question, the Total Time of Service Availability target for the purposes of the calculation shall be averaged over the period of the calculation (e.g. where one Total Time of Service Availability target applies for 5 months and another for 7 months, the average Total Time of Service Availability target will be calculated as follows: $((5 \times \text{TTSA1}) + (7 \times \text{TTSA2}))/12$).
3. The method for calculating service credits with respect to each Station on a monthly basis, is as follows:
 - 3.1 If no Breakdown has occurred in the month no service credits are due.
 - 3.2 If a Breakdown has occurred in the month then:-

For the relevant Station calculate the actual total period of Breakdowns over the previous 12-month period, including the current month of calculation.

 - 3.2.1 If the actual total period of Breakdowns over the last 12 months is less than or equal to the permitted period of Breakdown for 12 months, then no service credits are due.
 - 3.2.2 If the actual total period of Breakdowns over the last 12 months is greater than the permitted period of Breakdowns for 12 months, then service credits shall be due and calculated in accordance with Paragraph 4 below.
 - 3.2.3 For these purposes, the permitted period of Breakdown is the difference between the applicable Total Time of Service Availability target set out in Table 1 of Schedule 11 and 100%;
4. For any Breakdown that occurs during the month which causes the actual total period of Breakdowns over the last 12 months to exceed the permitted period of Breakdowns the following formula shall be applied to calculate the relevant service credits:

$$\text{Service credits} = M \times (X \times D \times T \times W)$$

where:-

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M = the period of Breakdown in the relevant month in which a Breakdown has occurred expressed in minutes and increments of 10 seconds minus any balance of permitted Breakdowns over the preceding 12 calendar months;

X = the relevant Station base figure as set forth in Table 1;

D = the relevant degradation weighting factor to be determined by reference to the nature of the Breakdown as set forth in Table 2 (if there is loss of more than one Material Degradation the aggregate value of which exceeds 1, the value to be attributed shall be 1);

T = the time of day weighting factor set forth in Table 3 (if the relevant minute spans different hours, the factor to be applied shall be that current at the start of the relevant minute);

W = the relevant Station weighting (expressed as a percentage) as set forth in Table 4;

5. Subject to Paragraph 6, Arqiva's aggregate liability to pay service credits in respect of the relevant calendar month equals the sum of the figures calculated for each Breakdown to which the formula set forth in Paragraph 4 is to be applied.
6. Where a period of Breakdown straddles a change to Station base figures, the period shall be divided and the formula set out in paragraph 4 of this Schedule 12 shall be applied for each sub-period, applying the relevant Station base figures to each.
7. Arqiva shall notify the Customer of the period, nature and timing of all Breakdowns at each Station.
8. Arqiva shall have no obligation to pay service credits with respect to any Station until the Actual Service Start Date in respect of such Station.
9. When there are simultaneous Breakdowns at more than one Station, in no circumstances shall Arqiva be liable to pay aggregate service credits in respect of such period at a rate in excess of £ 2,000 per minute.

Table 1 - Station Base Figures

Station Service Category	Base Figure
A	£2,000
B	£1,000

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Example:

For a total loss of transmission of 10 minutes, on a Wednesday at 14.10, at Belmont; where the balance of permitted breakdown from the preceding 12 months is 3 minutes:

$$\text{Service credits} = M \times (X \times D \times T \times W)$$

where:-

$$M = 10 - 3 = 7$$

$$X = \text{£}2,000$$

$$D = 1.0$$

$$T = 0.6$$

$$W = 3.24\%$$

The service credits will therefore be:

$$7 \times (\text{£}2,000 \times 1.0 \times 0.6 \times 3.24\%) = \text{£}272.16$$

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Table 2 - Degradation Weighting Factors

Degradation	Weighting Factor
Total loss of transmission	1
Service Category A Stations: Station ERP degraded by greater than 3dB and up to 6dB relative to that shown in Schedule 6 related to the antenna in use as a result of a Transmitter System fault	0.5
Service Category A Stations: Station ERP degraded by greater than 6dB relative to that shown in Schedule 6 related to antenna in use as a result of a Transmitter System fault	1
Service Category B Stations: Station ERP degraded by greater than 6dB relative to that shown in Schedule 6 related to the antenna in use as a result of a Transmitter System fault	1
Station ERP degraded to levels no less than the level shown in Schedule 6 in the column titled 'Reserve ERP' when operating in the reserve Antenna condition.	0*
Any material impairment not covered by any of the foregoing	0.1

*ie no service credits are payable in these circumstances.

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Table 3 - Time of Day Weighting Factor

Time of Day (Clock Hour)							
	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
0000 - 0100	0.8	0.8	0.8	0.8	1.0	1.0	1.0
0100 - 0200	0.6	0.6	0.6	0.6	0.8	0.8	0.8
0200 - 0300	0.2	0.2	0.2	0.2	0.4	0.4	0.4
0300 - 0400	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0400 - 0500	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0500 - 0600	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0600 - 0700	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0700 - 0800	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0800 - 0900	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0900 - 1000	0.8	0.8	0.8	0.8	0.8	0.8	0.8
1000 - 1100	0.6	0.6	0.6	0.6	0.6	0.6	0.6
1100 - 1200	0.6	0.6	0.6	0.6	0.6	0.6	0.6
1200 - 1300	0.8	0.8	0.8	0.8	0.8	0.8	0.8
1300 - 1400	0.8	0.8	0.8	0.8	0.8	0.8	0.8
1400 - 1500	0.6	0.6	0.6	0.6	0.6	0.6	0.6
1500 - 1600	0.6	0.6	0.6	0.6	0.6	0.6	0.6
1600 - 1700	0.8	0.8	0.8	0.8	0.8	0.8	0.8
1700 - 1800	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1800 - 1900	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1900 - 2000	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2000 - 2100	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2100 - 2200	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2200 - 2300	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2300 - 0000	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 4 - Station Weightings

The weightings shown in this Table 4 are based on a percentage.

STATION	WEIGHTING
ABERDARE	0.10
ANGUS	0.72
BEACON HILL	0.52
BELMONT	3.38
BILSDALE	2.96
BLACK HILL	3.99
BLAENPLWYF	0.10
BLUEBELL HILL	1.04
BRESSAY	0.02
BRIERLEY HILL	0.27
BRISTOL ILCHESTER CR	0.12
BRISTOL KINGS WESTON	0.14
BROMSGROVE	0.12

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BROUGHER MOUNTAIN	N/A
BURNHOPE	2.34
CALDBECK	0.56
CARADON HILL	0.70
CARMEL	0.32
CHATTON	0.09
CHESTERFIELD	0.17
CHILLERTON DOWN	3.53
CRAIGKELLY	1.80
CRYSTAL PALACE	17.81
DARVEL	0.48
DIVIS	1.45
DOVER	1.08
DURRIS	0.68
EITSHAL	0.04
EMLEY MOOR	5.38
FENHAM	0.47
FENTON	0.42
GUILDFORD	0.23
HANNINGTON	1.72
HASTINGS	0.11
HEATHFIELD	0.43
HEMEL HEMPSTEAD	0.45
HUNTSHAW CROSS	0.23
IDLE	0.19
KEELYLANG HILL	0.04
KEIGHLEY	0.19
KILVEY HILL	0.45
KNOCKMORE	0.12
LANCASTER	0.31
LARK STOKE	0.27
LICHFIELD	8.35
LIMAVADY	N/A
LLANDDONA	0.19
MALVERN	0.24
MENDIP	3.64
MIDHURST	0.49
MOEL Y PARC	0.52
NOTTINGHAM	0.24
OLIVERS MOUNT	0.13
OXFORD	1.67
PENDLE FOREST	0.38
PLYMPTON	0.23
PONTYPOOL	0.03
PRESELY	0.21
REDRUTH	0.48
REIGATE	0.32
RIDGE HILL	1.01
ROSEMARKIE	0.26
ROSNEATH VP	0.21

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RUMSTER FOREST	0.09
SADDLEWORTH	0.10
SALISBURY	0.12
SANDY HEATH	4.11
SELKIRK	0.13
SHEFFIELD	0.59
STOCKLAND HILL	0.66
STORETON	0.08
SUDBURY	1.32
TACOLNESTON	1.44
THE WREKIN	1.27
TOROSAY	0.03
TUNBRIDGE WELLS	0.28
WALTHAM	2.19
WENVOE	1.66
WHITEHAWK HILL	0.70
WINTER HILL	11.10
TOTAL	100.00

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SCHEDULE 13

Change Control Procedure

1. Changes Requested by the Customer
 - 1.1 The Customer may request a Change at any time during the Term.
 - 1.2 If the Customer wishes to request a Change, it shall serve on Arqiva, via their appointed Arqiva Account Manager, a notice (a "**Change Request**") specifying the nature of the Change it wishes to introduce in accordance with the Change Control Procedure. Until such time as a Change is made in accordance with the Change Control Procedure, both parties shall, unless otherwise agreed in writing, continue to perform their obligations as if the Change Request had not been made.
 - 1.3 The Customer Change Request shall set out the Change being proposed in sufficient detail to enable Arqiva to evaluate the matters specified in Paragraph 1.4 of this Schedule 13 and, without limitation, shall include:
 - 1.3.1 full details of the Change, including any specifications;
 - 1.3.2 reason(s) and supporting information for the requested Change (including issues and risks which will arise if the Change is not made);
 - 1.3.3 the requested date with effect from which the Change will be implemented;
 - 1.3.4 full names, titles and contact details of the individual(s) who will be responsible for managing the Change on behalf of the Customer;
 - 1.3.5 provision for signature by both the Customer and Arqiva; and
 - 1.3.6 a requirement for Arqiva to provide the Customer with the information specified in Paragraph 1.4 of this Schedule 13. In submitting the Change Request the Customer agrees to pay any additional charges in respect of investigating the Change Request.
 - 1.4 As soon as practicable, Arqiva shall in good faith evaluate the Customer's proposed Change and shall serve on the Customer a notice (a "**Change Proposal**"). Each Change Proposal shall specify the following information:
 - 1.4.1 whether any temporary relief from compliance with any of Arqiva's obligations under this Agreement is necessary in order to enable Arqiva to implement the Change, and confirmation at what point the parties agree that full reinstatement of the Total Time of Service Availability and service credit regime applies (which shall in any event be no later than the date upon which the product of such Change is working satisfactorily);
 - 1.4.2 a detailed risk assessment in respect of the Change;
 - 1.4.3 any regulatory consents, approvals or authorisations which are required in connection with the Change;
 - 1.4.4 an implementation plan for the Change, including, a timetable, test plan and acceptance criteria (as applicable);
 - 1.4.5 any variation required to be made to the Agreement in connection with the Change;
 - 1.4.6 details of any additional resources expected to be required in developing, testing and implementing the Change;

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- 1.4.7 the costs of developing, testing and implementing the Change and the details of any adjustment to be made to the Transmission Fees as a result of introducing the Change;
- whether or not the Change Request is one which will require the agreement of other affected parties (including other 600 MHz DTT Multiplex Licensees) because for example it relates to shared infrastructure (a "**Multi-Party Change**").
- 1.5 The Customer may:
- 1.5.1 request Arqiva to provide any further information reasonably necessary for the evaluation of the Change Proposal; or
- 1.5.2 request Arqiva to amend any details contained in the Change Proposal, and Arqiva shall respond to such request within a reasonable time.
- 1.6 The parties shall, using all reasonable endeavours and acting in good faith, try to agree the contents of the Change Proposal as soon as reasonably practicable after its receipt by the Customer. Failing agreement, the matter shall, at either party's request, be determined by an expert pursuant to Clause 24.3. Where such contents are so agreed or determined (as appropriate) Arqiva shall jointly prepare a Change Request Order in accordance with the template set out at the end of this Schedule ("**Change Request Order**" or "**CRO**") setting out full details of the Change for approval by the Customer, such approval not to be unreasonably withheld.
- 1.7 As soon as practicable after the contents of a CRO have been agreed or determined under Paragraph 1.6, the Customer shall either:
- 1.7.1 accept the Change (and arrange for two (2) copies of the approved CRO to be signed by or on behalf of the Customer and Arqiva); or
- 1.7.2 notify Arqiva of the rejection of the CRO (stating the reason(s) for such rejection and providing Arqiva with any further information as it may reasonably request in respect of the same).
- 1.8 If the Customer does not accept the Change in accordance with Paragraph 1.7.1 within ten (10) Business Days after the contents of the CRO have been agreed or determined, the Change Proposal shall be deemed to have been rejected by the Customer.
- 1.9 If the Customer and Arqiva agree a Change pursuant to Paragraph 1.7, then subject to Paragraph 3:
- 1.9.1 the signed CRO shall constitute a valid variation of this Agreement under Clause 25.10 and, accordingly, this Agreement shall immediately be deemed amended to incorporate the changes specified in the CRO, including (for the avoidance of doubt) any adjustment to the Transmission Fees specified under Paragraph 1.4.7; and
- 1.9.2 Arqiva shall immediately commence the implementation of the Change in accordance with the programme specified in the CRO as referred to in Paragraph 1.4.
2. Changes Requested by Arqiva
- 2.1 If Arqiva wishes to request a Change, it shall serve on the Customer a Change Request specifying the nature of the required Change. Arqiva's Change Request shall attach a Change Proposal and draft CRO containing the information set out in Paragraph 1.4.
- 2.2 The Customer may:

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2.2.1 request Arqiva to provide any further information reasonably necessary for the evaluation of the Change Proposal and draft CRO; or

2.2.2 request Arqiva to amend any details contained in the Change Proposal and/or draft CRO,

and Arqiva shall respond to any such request within a reasonable time.

2.3 If the Customer accepts Arqiva's Change Request (with or without modification), it shall arrange for two (2) copies of the approved CRO to be signed by or on behalf of the Customer and Arqiva, and subject to Paragraph 3:

2.3.1 the signed CRO shall constitute a valid variation of this Agreement under Clause 25.10 and, accordingly, this Agreement shall immediately be deemed amended to incorporate the changes specified in the Change Proposal, including (for the avoidance of doubt) any adjustment to the Transmission Fees specified under Paragraph 1.4.7; and

2.3.2 Arqiva shall immediately commence the implementation of the Change in accordance with the programme specified in the Change Proposal as referred to in Paragraph 1.4.

Subject to the remaining provisions of this Schedule 13, if the Customer does not accept the Change within ten (10) Business Days after the contents of the CRO have been agreed or determined, the Change Proposal shall be deemed to have been rejected by the Customer.

3. Multi-Party Changes

In the event of a Multi-Party Change, the parties shall approve the CRO in the same manner as set out in this Schedule, but such CRO shall not be effective until Arqiva notifies the Customer in writing that all relevant parties have approved the Multi-Party Change.

Without prejudice to the above, Arqiva shall notify the Customer of the impact of any such Changes, and consult with the Customer in respect of the implementation of such Changes, through the Change Control Procedure. If the Customer objects to any of the proposed Changes mandated by Ofcom and/or any other competent authority, Arqiva shall provide assistance to the Customer during any consultation process in respect of such proposed Changes. If the Customer does not accept the impact of any such Changes (including as to any adjustment to the Transmission Fee), the matter shall be referred to an expert pursuant to Clause 24.3.

4. Changes Required by Arqiva

Any change which Arqiva believes is necessary in order to meet the Target Service Start Date or as a result of any of the events described in Clause 9.6 shall be treated in accordance with the procedure set out in this Schedule 13, except that Arqiva shall be entitled to implement the relevant change even if a Change Request has not been signed by both parties. For the avoidance of doubt, any change so implemented shall constitute a valid amendment to this Agreement. Arqiva shall in any event, provide a Change Request to the Customer in respect of such change in accordance with this Schedule 13. Where the occurrence of any such event means that it is not possible to achieve the Target Service Start Date within the current charges, but it would be possible to achieve the Target Service Start Date with the investment of additional charges, Arqiva shall notify the Customer of this as soon as possible (specifying the amount of such additional charges) and it shall be the Customer's decision in its discretion whether to pay the additional charges or to extend the Target Service Start Date. If the Customer does not

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accept the impact of any such Change in respect of the Transmission Fee, the matter may be referred by either party to an expert pursuant to Clause 24.3.

5. Administration of Change Control Procedure

5.1 Arqiva shall, for each Change Request submitted, allocate a sequential number to the Change Request and maintain during the Term a consolidated record of all Changes agreed in accordance with the Change Control Procedure since the Execution Date (the "**Change Log**"); and

Arqiva shall deliver the Change Log to the Customer on the Customer's reasonable request. Arqiva shall make such amendments to the Change Log (if any) as the parties agree following the Customer's review of the Change Log.

6. Labour Costs

Labour costs involved in effecting a Change shall be at Arqiva's then current rates.

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Template Change Request Order

(1) Change Request Information: (to be completed as soon as the CRO is raised)			
CRO Unique ID:	[Date of submission;]		
Version Number:			
Customer originator and contact details:	Arqiva contact and contact details:		
(2) Change Details: (to be completed prior to approval)			
Description of Change: (including whether or not a Multi-Party Change- Y/N)			
Reason(s) for Change (please attach any relevant supporting information)			
Details of risk assessment			
Implementation plan (including timetable, test plan and acceptance criteria)			
Impact assessment			
Details of agreed variations to the Agreement [amendments to the Agreement must be agreed prior to acceptance of this CRO]			
Details of additional resources required			
Details of adjustment to Transmission Fee			
Details of any regulatory approvals, consent and/or authorisations required (if any);		Details of temporary relief from contractual obligations required (if any) and for how long:	
Effective date of Change:	Service(s) affected:	Station(s) affected:	
Approved by Arqiva Limited	Signed for and on behalf of Arqiva Limited	Approved by []	Signed for and on behalf of []
Name Date Title [Project Manager]	Name Date Title	Name Date Title [Project Manager]	Name Date Title

SCHEDULE 14

Sites with Difficult Access

ID	Station	NGR
15400	Eitshal	NB30563032
13400	Keelylang Hill	HY37721027
10510	Torosay	NM70313581
13402	Bressay	HU50303870

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SCHEDULE 15

Acceptance Testing

1. Following the date of this Agreement, Arqiva shall prepare and append to this Agreement at this Schedule 15 an Acceptance Testing Plan which will be designed to demonstrate that the System meets the requirements of the Baseline Specification set out in Schedule 6 of this Agreement.
2. The Acceptance Testing Plan will set out the test criteria for the following categories:
 - 2.1 Network Access:
 - 2.1.1 Gain Calculation; and
 - 2.1.2 Antenna Return Loss
 - 2.2 Exclusive Contracted Equipment:
 - 2.2.1 Station Power Output;
 - 2.2.2 Centre Frequency;
 - 2.2.3 Frequency Response;
 - 2.2.4 Out of Band Intermodulation Products; and
 - 2.2.5 Quality Impairment.
 - 2.3 Single Frequency Networks
 - 2.3.1 That the Static Delay at relevant Stations is in accordance with the SFN Timing Schedule (as provided by the Customer).

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SCHEDULE 16

Liquidated Damages

1. Subject to Paragraphs 2, 3 and 4 of this Schedule 16, the Liquidated Damages payable by Arqiva pursuant to Clause 4.3 shall be:
 - (i) £7,750 per completed week of delay after the Target Service Start Date for the relevant Station up to the thirteenth week after the Target Service Start Date; and
 - (ii) thereafter, £15,500 per further completed week of delay after the Target Service Start Date for the relevant Station up to the twenty-sixth week after the Target Service Start Date.
2. Arqiva's liability to pay Liquidated Damages shall be subject to the following limits:
 - (i) £305,000 per Station;
 - (ii) £77,500 in aggregate per week and
 - (iii) £1,600,000 in aggregate.
3. If Arqiva fails to meet the minimum Target Service Start Dates in respect of Sandy Heath Station, Divis Station, or Presely Station, Arqiva shall not be liable to pay Liquidated Damages in respect of the relevant Station until the date which is twelve (12) months after the Target Service Start Date for that Station.
4. For the avoidance of doubt, while Liquidated Damages are payable subject to the applicable terms of this Agreement in respect of Hannington (Main) Station, no Liquidated Damages are payable in respect of Hannington (Reserve) Station.

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SCHEDULE 17

Electricity Calculation (Illustrative Example)

Below is an illustration of how the electricity consumption is estimated on an annual basis

Electricity cost pa = Transmitter Power in kW × Transmitter Efficiency × 24hrs × 365 days × Pence Per Unit Price (inclusive of Carbon Reduction Charge at 6% of PPU price).

Based on typical solid state transmitters, the table below shows the efficiencies that might be expected for transmitters of different size (actual expected efficiencies to be confirmed at time of procurement)

Transmitter Power	Transmitter Efficiency	Efficiency multiple
< 1KW	12%	8.333*
1KW – 5KW	15%	6.666*
5KW >	18%	5.555*

Example calculations are below assuming a PPU rate inclusive of CRC of 9.3 ppu.

$$5KW \times 5.555^* \times 24 \times 365 \times 0.093 = \pounds 22,629.99 \text{ pa}$$

$$1KW \times 6.666^* \times 24 \times 365 \times 0.093 = \pounds 5,431.19 \text{ pa}$$

$$0.1KW \times 8.333^* \times 24 \times 365 \times 0.093 = \pounds 678.89 \text{ pa}$$

Electricity PPU costs vary Site by Site and are subject to fluctuations. Each supply is metered and the costs are a direct pass through. Below is a table of the 80 Sites detailing the main transmitter power, the electricity unit price, transmitter efficiency factor and an estimation of the electricity charge for each Site.

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Layer 9 Electricity costs

Site Name	Main TX Power	Individual site electricity costs	CRC 6% uplift	Transmitter efficiency factor	Electricity cost pa
Aberdare	0.02	0.105	0.111	8.33	£162
Angus	3.40	0.092	0.098	5.56	£16,136
Beacon Hill	3.40	0.091	0.096	5.56	£15,961
Belmont	6.72	0.076	0.081	5.56	£26,346
Bilsdale	8.37	0.081	0.086	5.56	£34,974
Black Hill	9.98	0.076	0.081	5.56	£39,127
Blaenplwyf	5.07	0.079	0.084	5.56	£20,662
Bluebell Hill	0.57	0.081	0.086	8.33	£3,573
Bressay	0.20	0.088	0.093	8.33	£1,362
Brierley Hill	0.68	0.103	0.109	8.33	£5,420
Bristol Ilchester Crescent	0.16	0.104	0.110	8.33	£1,280
Bristol Kings Weston	0.16	0.083	0.088	8.33	£1,021
Bromsgrove	0.16	0.116	0.123	8.33	£1,427
Burnhope	6.72	0.112	0.119	5.56	£38,826
Caldbeck	3.40	0.077	0.082	5.56	£13,505
Caradon Hill	5.07	0.076	0.081	5.56	£19,877
Carmel	1.45	0.086	0.091	6.67	£7,719
Chatton	3.40	0.081	0.086	5.56	£14,207
Chesterfield	0.16	0.100	0.106	8.33	£1,230
Chillerton	13.05	0.076	0.081	5.56	£51,164
Craigkelly	1.81	0.084	0.089	6.67	£9,412
Crystal Palace	3.40	0.077	0.082	5.56	£13,505
Darvel	3.40	0.083	0.088	5.56	£14,558
Divis	11.60	0.087	0.092	5.56	£52,061
Dover*	6.72	0.100	0.106	5.56	£34,666
Durris	5.07	0.100	0.106	5.56	£26,154
Eitshal	1.77	0.089	0.094	6.67	£9,752
Emley Moor	13.05	0.078	0.083	5.56	£52,510
Fenham	0.16	0.087	0.092	8.33	£1,070
Fenton	0.16	0.082	0.087	8.33	£1,009
Guildford	0.68	0.097	0.103	8.33	£5,104
Hannington	1.45	0.083	0.088	6.67	£7,450
Hastings	0.16	0.107	0.113	8.33	£1,316
Heathfield	3.40	0.085	0.090	5.56	£14,909
Hemel Hempstead	0.02	0.082	0.087	8.33	£127
Huntshaw Cross	3.40	0.088	0.093	5.56	£15,435
Idle	0.02	0.089	0.094	8.33	£138
Keelylang Hill	0.79	0.082	0.087	8.33	£5,013
Keighley	0.16	0.106	0.112	8.33	£1,304

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Kilvey Hill	0.29	0.085	0.090	8.33	£1,907
Knockmore	5.07	0.082	0.087	5.56	£21,447
Lancaster	0.29	0.103	0.109	8.33	£2,311
LarkStoke	0.16	0.081	0.086	8.33	£997
Lichfield	8.37	0.075	0.080	5.56	£32,384
Llanddona	0.31	0.080	0.085	8.33	£1,931
Malvern	0.16	0.079	0.084	8.33	£972
Mendip	6.72	0.078	0.083	5.56	£27,040
Midhurst	0.31	0.077	0.082	8.33	£1,859
Moel-y-Parc	0.57	0.081	0.086	8.33	£3,573
Nottingham	0.04	0.135	0.143	8.33	£418
Olivers Mount	0.68	0.085	0.090	8.33	£4,473
Oxford	9.98	0.089	0.094	5.56	£45,820
Pendle Forest	0.02	0.082	0.087	8.33	£127
Plympton	0.29	0.110	0.117	8.33	£2,468
Pontypool	0.02	0.099	0.105	8.33	£154
Presely	3.40	0.087	0.092	5.56	£15,259
Redruth	0.78	0.079	0.084	8.33	£4,756
Reigate	0.68	0.086	0.091	8.33	£4,525
Ridge Hill	1.45	0.075	0.080	6.67	£6,732
Rosemarkie	1.45	0.082	0.087	6.67	£7,360
Rosneath VP	0.94	0.092	0.098	8.33	£6,692
Rumster Forest	3.40	0.083	0.088	5.56	£14,558
Saddleworth	0.29	0.079	0.084	8.33	£1,773
Salisbury	0.68	0.096	0.102	8.33	£5,051
Sandy Heath	13.05	0.096	0.102	5.56	£64,628
Selkirk	1.45	0.085	0.090	6.67	£7,630
Sheffield	0.16	0.084	0.089	8.33	£1,033
Stockland Hill	6.72	0.082	0.087	5.56	£28,426
Storeton	0.16	0.140	0.148	8.33	£1,722
Sudbury	3.40	0.080	0.085	5.56	£14,032
Tacolneston	1.45	0.100	0.106	6.67	£8,976
The Wrekin	0.31	0.075	0.080	8.33	£1,811
Torosay	0.20	0.100	0.106	8.33	£1,548
Tunbridge Wells	1.80	0.098	0.104	6.67	£10,912
Waltham	5.07	0.078	0.083	5.56	£20,400
Wenvoe	3.40	0.081	0.086	5.56	£14,207
Whitehawk Hill	0.68	0.100	0.106	8.33	£5,262
Winter Hill	8.37	0.076	0.081	5.56	£32,815
				Total	£1,007,465

The total is a guide and is subject to electricity price fluctuations, antenna system gain calculation changes causing transmitter size variations and transmitter configuration changes.

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SCHEDULE 18

Risks

Part 1 - Standard Risks

1. Any increase in the number of labour hours allocated to the Build Project driven by internal or external risk factors including such risks as the following (but not, for the avoidance of doubt, including any risk factors which are Exceptional Risks):
 - (i) Imperfect information and assumptions relating to site structure, building conditions, hazardous materials or design parameters;
 - (ii) Additional design requirements for contingency items: Re-use of buildings, building structural works, design of new facilities;
 - (iii) Delays, or additional design requirements resulting from planning conditions or environmental impact assessment requirements;
 - (iv) Supplier related issues resulting from complexity/technology, impact of specialist supplier resource constraints or supplier performance; or
 - (v) Industrial action by own workforce or suppliers' workforces.
2. Any changes in wages or labour rates that are not covered by RPI.
3. Any changes due to commodity price movements for raw materials and demand driven price changes for the following materials:
 - (i) Major electrical equipment, LV and HV switchgear, Diesel generators, HVAC Equipment;
 - (ii) Cable, Antennas and other RF manufactured items;
 - (iii) Civil and structural materials and consumables.
4. Any delays and additional costs associated with protracted planning processes, planning conditions and appeals, environmental impact assessments, landscaping and access conditions.
5. Any high winds restricting work at height or rain restricting Station access or building works (any inability to access a Site due to weather or natural disasters for a prolonged period shall be treated as a Force Majeure Event).
6. Any unanticipated soil stabilisation, slope stabilisation or reclamation works.
7. Any unacceptable static and dynamic loading characteristics requiring Antenna re-design, Mast replacement or Mast strengthening works that are not anticipated.
8. Any hazardous materials encountered during the project which will require specialist removal and disposal including contaminated soil, in-building asbestos, asbestos in Antenna shrouds, PCBs, oil, beryllium.
9. Any permanent or temporary access roads and drainage works that may be required at Stations.
10. Any unanticipated additional work to existing buildings or construction of new buildings to ensure suitability for re-use.
11. Any additional costs due to a compression of the work schedule resulting from one of the following events:

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- (i) Supplier and contractor performance;
 - (ii) Union and workforce issues;
 - (iii) Specialist resource and equipment constraints;
 - (iv) Incident/accident; or
 - (v) Informal change of existing working practices driven by outside influence or change of attitudes.
12. Any changes required to existing infrastructure that no longer meets technical, maintenance or performance requirements.
13. Any measured EMF levels at site requiring changes to the work sequence, schedule, execution methodology or exposure periods.
14. Any failure of existing infrastructure e.g. Antenna fire, structural collapse that requires changes to the execution sequence, timing or method.
15. Foreign Exchange fluctuations
16. Any changes other than RPI annually to Arqiva's estimated hourly or daily labour rates used for the 600 MHz Transmission Programme.

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Part 2 - Exceptional Risks

1. Any Change in Law.
2. Any act or omission of any Government Authority which is not a Change in Law.
3. Any other Force Majeure Event.
4. Any failure to obtain any Consent (Arqiva having used reasonable endeavours to obtain such Consent, but this shall not imply any obligation on Arqiva's part to exercise any code powers under the Telecommunications Act 1984 (as amended by the Communications Act 2003)).
5. Any change to the 600 MHz Programme timetable (but not including changes to the timetable (i) arising as a direct result of a material breach of this Agreement by Arqiva or (ii) requested by Arqiva as a result of its failure to exercise reasonable care and skill).
6. Any change to the Ofcom Provisional Specification or failure to agree a revised Ofcom Specification in a timely manner.
7. Any failure to agree in a timely manner Service Continuity with any affected party or any change to any Service Continuity arrangements (as further described in Schedule 23).
8. Any failure to agree any Antenna Design Specification by the relevant Antenna ADS Approval Date.
9. Deviations from the currently expected number and type of 600 MHz DTT Multiplex services broadcasting from the 80 Sites listed in Schedule 5.
10. The cessation of the Arqiva AM radio platform.
11. The cessation of the Arqiva FM radio platform.
12. Any delay, impediment or other act or omission of Customer (or any contractor employed by Customer), or any 600 MHz DTT Multiplex Licensees but only if and to the extent that such delay, impediment or other act or omission prevents or impedes the proper performance by Arqiva of its obligations under this Agreement.
13. Any cost or schedule change to the 600 MHz Transmission Programme as a result of disruption to existing services (except for disruption arising as a direct result of a material breach of this Agreement by Arqiva or by the failure of Arqiva to exercise reasonable care and skill), including any cost or schedule changes required by third party Station users in order to give their consent to relocation or reduced power working and also including where Service Start Dates do not occur on the Target Service Start Dates.
14. A prolonged and material deviation in long-term interest rates from levels pertaining in November 2011 which results in a need for Arqiva to increase the WACC.
15. Loss or cessation of Station licences or leases.
16. Any health and/or safety related issues that restrict or halt works on site (except to the extent caused by Arqiva's negligence or breach of statutory duty).
17. Failure by any of the 600 MHz DTT Multiplex Licensees to enter into an Advance Design Agreement and an Advance Equipment Procurement Agreement by 30 November 2012.
18. Any requirement, by any of the 600 MHz DTT Multiplex Licensees, to vary the number of sites, specification or deployment timetable as defined herein.
19. Any other risk which is not a Standard Risk.

SCHEDULE 19

Transition Assistance

The transition plan shall be designed to allow the transition of the Transmission Service to a competent service provider appointed by the Customer. The transition plan shall include the following information (subject to any confidentiality obligations or other obligations in any third party agreements):

1. A description of the Transmission Service provided to the Customer including:
 - The location and technical characteristics of all interfaces relevant to the provision of the Transmission Service;
 - A system overview relating to the provision of the Transmission Service;
 - Any manufacturer's manuals and operating procedures and any training materials provided by suppliers which are relevant to the Transmission Service;
 - Key support contact details for relevant manufacturer's Exclusive Contracted Equipment used to provide the Transmission Service;
 - A summary of maintenance procedures for the Exclusive Contracted Equipment; and
 - Details of any licences used solely or mainly in the provision of the Transmission Service.
2. The specific processes to be implemented for the transfer of Exclusive Contracted Equipment and for the handover of the Transmission Service generally at each Station and any new station.

SCHEDULE 20

Customer Responsibilities

Permissions and Licenses

The following are beyond the scope of this Agreement and the responsibility of the Customer:

1. International co-ordination.
2. WTA Licences.
3. OFCOM consents.
4. DMOL consents.
5. Freeview consents.
6. Public communications.
7. Public assistance (re-rescanning of set-top boxes and aerial issues).
8. Obtaining the consents and agreements of other multiplex operators related to DTT service issues.
9. Agreement of rules related to Service Information where a national SFN is required.

The Customer shall be responsible for procuring permission from Ofcom in respect of the transmission of the Customer Signals for test purposes prior to the Target Service Start Date as reasonably required by Arqiva.

Use of Existing Antennas

As detailed in Schedule 6, at a number of Stations the use of existing Antennas is proposed. Antenna pattern data for existing Antenna Systems is available upon request from Arqiva. It is the Customer's responsibility to ensure the Antenna pattern data is acceptable.

Use of New Antennas

Where new Antennas are required, Arqiva shall provide to the Customer an Antenna Design Proposal, showing anticipated Antenna performance, for each Station. The Customer shall be required to confirm acceptance of this Antenna design to allow Arqiva to produce a detailed Antenna Design Specification which the Customer must approve in writing by the Antenna ADS Approval Date.

The Antenna selection process shall allow the Customer the opportunity to influence the final specification of an Antenna. Where other customers require shared use of an antenna, it shall be the responsibility of the Customer to act in good faith to agree an Antenna solution at each Site where a new Antenna is proposed by the required Antenna ADS Approval Date. Failure to agree the ADS by the required Antenna ADS Approval Date may lead to a delay in the provision of the Target Service Start Date.

Since there will be an inter-dependence between coverage and system gain the Customer should be aware that the transmitter required to achieve the nominal ERP may be subject to change.

Specification of Transmitter System Power

Schedule 11 shows the Transmitter System Powers to be provided by Arqiva at each Site. The Customer shall confirm by the Transmitter System Specification Date that this meets their requirements.

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Provision of DVB Compression System and Distribution

The Customer shall be responsible for the provision of DVB Compression systems and a Distribution System to the Stations. The systems shall be required to be in place at least three months prior to the relevant Target Service Start Date shown in Schedule 3.

The systems shall be required to be in place at least three months prior to the relevant Target Service Start Date shown in Schedule 3

Provision of DVB T2 Gateways

The Customer shall be responsible for the provision of DVB T2 Gateways where required. The DVB T2 Gateways shall be required to be in place at least three months prior to the relevant Target Service Start Date shown in Schedule 3.

Provision of Central Service Information (CSI)

Where required, the Customer shall be responsible for the provision of a CSI Feed to the Stations. The CSI Feed shall be required to be in place at least three months prior to the relevant Target Service Start Date shown in Schedule 3.

Service Information Processing

The cross-carriage Service Information requirements of a national Single Frequency Network are beyond the scope of the DTG D-Book at time of publication of this Reference Offer. The provision of Service Information Processing equipment is outside the scope of this Reference Offer. Since transmissions from all Stations is required to be identical in a national SFN and, since any processing would be required prior to the T2 Gateway, is expected that Service Information Processing equipment and the T2 Gateway would be located at a central location.

Provision of SFN Timing Information

Arqiva shall provide to the Customer Antenna patterns for each Station in the network under all normal operating conditions (e.g. when working half antenna and full antenna). A network design shall be required for SFN Stations which take the Antenna patterns into account. Whilst the provision of the SFN Network Design is not included in this Agreement, Arqiva would be willing to undertake this work as part of a separate contract with the Customer.

Where required, the Customer shall be responsible for a network timing schedule for each Station in the SFN. For the avoidance of doubt this should include maximum distribution network delays to each Station and any static offsets which may be required. Arqiva shall set up each Station in accordance with the Network Timing Schedule provided by the Customer. Absolute timestamps shall be required. The SFN timing information shall be required to be available at least three months prior to the relevant Target Service Start Date shown in Schedule 3.

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SCHEDULE 21

Single Frequency Network

Single Frequency Networks are required at the Stations shown in Schedule 6.

Single Frequency Networks (SFN's) use the same basic architecture as Multi Frequency Networks (MFN's) but are required to be time co-incident (within the guard interval) and frequency co-incident (within 1Hz).

For a DVB-T based SFN, the TS would pass through an SFN Adaptor which inserts timing information in the form of a Megaframe Initialisation Packet (MIP). The insertion of this information allows all SFN modulators to deterministically generate the signal to be broadcast. In a DVB-T situation, use of an SFN would have the following implications:

Playout Centre

- SFN adaptor: inserts the Megaframe Initialisation Packet (MIP) which amongst other things provides the timing reference the Synchronisation Time Stamp (STS), and sets the network delay which is the time all stations must wait before transmitting (subject to any adjustments to the static delay on the individual transmitter sites)
- GPS receiver: Provides 1 PPS for timing information to the SFN adaptor

Transmitter Site

- SFN Modulator: this is usually the same modulator as an MFN but with SFN functionality switched on. This unit allows the transmitted signal to be made time co-incident with all others in the network (subject to any local static time settings) taking into account the network delay setting and actual distribution delays.
- GPS Receiver: Provides 1 PPS for timing information to the modulator and 10MHz reference for the transmitter local oscillators.

On any station in an SFN it is important that GPS lock is remotely signalled and any loss of lock should cause a switchover to any redundant equipment.

During commissioning the transmitter Sites must be checked to ensure the measured margin (difference between SFN adaptor network delay and distribution system delay) is adequate but not excessive, the frequencies are confirmed to be within 1Hz of nominal and the static time delay is set as per pre-defined calculations. Final measurements of coverage and network timings will then need to be completed in areas of overlapping coverage between sites to ensure destructive interference is not occurring.

For DVB-T2 the situation is slightly more complex in that normally a modulator will convert the TS to "Baseband Frames", apply error correction, and insert the resulting "FEC Frames" into the "T2 Frame". Each of these steps is non deterministic, and therefore requires the use of a device called a T2 Gateway to provide a single point of processing of the above steps, and then the distribution system must handle a modified TS called a T2-MI (Modulator Interface) stream.

The use of such a stream could have implications for any route switching within the distribution network. Practical implementations of seamless TS switching may not be designed to handle T2-MI streams, so their behaviour with such streams would need consideration.

In addition, any non seamless switching could potentially cause up to two T2 Frames duration of non synchronous operation in a subsequent T2 modulator, resulting in the output being muted for a far greater period than the original disturbance.

This Agreement is based upon the use of the DVB-T2 transmission standard and this requires the addition of additional units at either the playout facility or at one of the Stations within or feeding the SFN.

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In setting up the system it is important to ensure that the network delay is sufficient for all transmitter Sites to be time co-incident without causing unnecessary overall delay.

It shall be the responsibility of the Customer to provide all necessary SFN timing information to Arqiva to allow the system to be commissioned. It is expected that such information may be available from Ofcom or as a result of a detailed spectrum planning study.

Since the Customer shall have a number of options relating to the architecture of the T2 timing and distribution system, Arqiva has assumed the following in respect of this Agreement:

- Signal Processing equipment (related to the processing of Service Information) has been included by Arqiva and assumed to be located at one of the sites in each of the 12 SFNs (this may not be required depending on the architecture required by the Customer).
- Lines would be used to distribute the multiplex to each of the sites with the SFN
- Transmitter Systems and required timing reference information (derived from the GPS system) shall be provided at each of the sites by Arqiva.

Arqiva shall not provide DVB-T2 Gateways under the terms of this Agreement since the Customer may choose to locate such equipment at a central location. In the event that the Customer requires Arqiva to either procure or simply accommodate such equipment at a Site, Arqiva shall provide a proposal to the Customer in respect of such request from the Customer.

The cross-carriage Service Information requirements of a national Single Frequency Network are beyond the scope of the DTG D-Book. The provision of Service Information Processing equipment for a national SFN is outside the scope of this Agreement. Since transmissions from all Stations are required to be identical in a national SFN and, since any processing would be required prior to the T2 Gateway, it is expected that such equipment and the T2 Gateway would be located at a central location.

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SCHEDULE 22

Termination Payments

1. In the event of this Agreement being terminated by Arqiva pursuant to Clause 16.2 or by either party pursuant to Clause 14.2 Arqiva shall have a duty to take all reasonable steps to mitigate its present and future losses arising from such termination ("Mitigation"), with the result that Arqiva shall be unable to claim or recover from the Customer any part of its losses that could have been avoided by taking such reasonable steps, such Mitigation to include using reasonable endeavours to secure, on the best available commercial terms:
 - 1.1 alternative customers and/or contracts for a service the same as or similar to the Transmission Service;
 - 1.2 alternative utilisation or exploitation of the System;
 - 1.3 alternative utilisation of labour.
2. The Customer acknowledges that Network Access infrastructure is shared across a number of customers and, accordingly, Arqiva's ability to mitigate costs in respect of such shared infrastructure will be limited.
3. For the avoidance of doubt, nothing in this Agreement shall be construed as reducing or limiting a party's common law duty to mitigate its losses arising from a breach of contract.
4. The Customer shall pay to Arqiva any amounts due under Clause 17.4 as follows:
 - 4.1 Where this Agreement has been terminated pursuant to Clause 16.2(a), (b) or (c) or pursuant to Clause 14.2, Arqiva in consultation with the Customer will promptly calculate the amount payable by the Customer under Clause 17.4 in accordance with the provisions set out in the table below.
 - 4.2 Where this Agreement has been terminated pursuant to Clause 16.2(d), Arqiva in consultation with the Customer, will over a period of three months from the effective date of termination or until Ofcom completes the relicensing of the relevant spectrum, whichever is earlier, calculate the amount payable by the Customer under Clause 17.4 during which time the Customer shall continue to pay the full Transmission Fee due under this Agreement.
 - 4.3 Once the amount of the termination payment has been calculated by Arqiva pursuant to Paragraph 4.1 or 4.2 of this Schedule 22, Arqiva will notify the Customer in writing of the applicable amount and provide copies of all supporting information. In the event that there is a dispute regarding the amount of the termination payment, the matter will be determined pursuant to Clause 24 and the Customer will continue to pay to Arqiva the full Transmission Fee due under this Agreement until such time as the dispute is resolved.
 - 4.4 Once the amount of the termination payment has been agreed by the parties or determined pursuant to Clause 24, the Customer will be required to pay the applicable amount to Arqiva as follows:
 - 4.4.1 where the applicable amount has been calculated pursuant to Paragraph 4.1 of this Schedule 22, the Customer shall pay the termination payment within 30 days of the date of notification by Arqiva under Paragraph 4.3 above; or
 - 4.4.2 where the applicable amount has been calculated pursuant to Paragraph 4.2 of this Schedule 22, the Customer shall pay the termination payment in 24 monthly instalments, such amount to be adjusted to take into account any Transmission Fees paid by the Customer in the time taken to agree or determine the termination payment amount (following the effective date of termination). In the event that the amount of Transmission Fees paid by the Customer in the time taken to agree or determine the termination payment amount is greater than the amount due, Arqiva will pay to the Customer the difference between these two amounts (including any applicable interest) within 30 days of the applicable amount being agreed or determined.

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4.5 If during the twelve months after the effective date of termination after Arqiva has received the termination payment due from the Customer, Arqiva is able to procure any further Mitigation, Arqiva will refund to the Customer such amounts as it is able to mitigate up to the amount of the termination payment.

Termination Event (Clause ref.)	Termination Payment (Transmission Elements)	Termination Payment (Network Access)
<p>16.2(a) <i>(breach of payment obligations)</i></p> <p>16.2(b) <i>(other material breach)</i></p> <p>16.2(c) <i>(insolvency event)</i></p> <p>16.2(d) <i>(revocation or surrender or breach of Multiplex Licence, except where the revocation or surrender or breach of the Multiplex Licence is due to a breach by Arqiva of its obligations under the Agreement)</i></p>	<p>The Net Present Value, applying a discount rate of 7.71% (real), of the amount of the Transmission Fee that would but for termination have been payable to Arqiva by the Customer over the remainder of the Term (as at the effective date of termination).</p> <p style="text-align: center;">MINUS</p> <p>Subject to Paragraphs 1 and 2 of this Schedule 22, an amount equal to any expenditure avoided by Arqiva and any fees paid to Arqiva for the relevant period by third parties under Mitigation arrangements.</p>	<p>RO Shortfall</p>
Termination Event (Clause ref.)	Termination Payment (Transmission Elements and Network Access)	
<p>14.2 Force Majeure</p>	<p>A sum which, following the subtraction of an amount equal to any expenditure avoided by Arqiva and any fees paid to Arqiva by third parties under Mitigation arrangements (in accordance with paragraphs 1, 2 of this Schedule 22), is:</p> <p>(i) 75% of the total costs incurred by Arqiva (including capital investment, cost of capital and operating costs) in carrying out the Build Project as at the effective date of termination less the relevant portion of such costs already recovered through the Transmission Fee paid to Arqiva by the Customer up to the date of termination; and (ii) 75% of any decommissioning costs and redundancy costs incurred by Arqiva relating to the dismissal of employees as a result of, or in connection with, the Agreement being terminated pursuant to Clause 14.2 less the relevant portion of such costs already recovered through the Transmission Fee paid to Arqiva by the Customer up to the date of termination. In this paragraph "relevant portion" shall refer to expenditure committed in relation to Network Access only and means a pro rata share (attributable to the Customer and the number of Stations used to provide the Transmission Service) of any costs which are shared between other users of the service which reflects the number and type of multiplexes in respect of which Network Access is provided by Arqiva.</p>	

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SCHEDULE 23

Service Continuity

The Customer agrees and acknowledges that implementation of the Transmission Services will have an impact on current broadcast services and other services transmitted from the affected Stations. For each Station there are two distinct phases where there is likely to be a change to the radiation characteristics of the existing services. These are described in more detail below:

1.1 Impact on existing services during any Antenna construction

Arqiva shall schedule Antenna construction to take place during the “build season”. The “build season” is the time of the year when it can be reasonably expected that there will be prevailing good weather, generally between March and September (although this will depend on the geographic location of the Station). The Customer acknowledges that during an Antenna construction period, existing services (either for the Customer or other customers of Arqiva) may be disrupted whilst a new Antenna is being installed. The Customer agrees and acknowledges that to allow the Antenna construction it may be necessary for existing services to operate in certain abnormal configurations. Arqiva will need to obtain the agreement of its customers for these existing services to any abnormal configurations. Such customers may restrict the timings of these abnormal restrictions such that Arqiva cannot achieve completion of Antenna construction in accordance with the Station Dates in Schedule 3. Any delay caused by such timing restrictions shall be deemed to be an Exceptional Risk.

1.2 Impact on existing services during any Combiner Unit installation or modification

Combiner Unit installation or modifications to existing Combiner Unit(s) will be required at all Stations. At Stations where existing Antenna are being utilised, existing broadcast services (either for the Customer or other customers of Arqiva) may be disrupted whilst a new Combiner Unit installation or modifications to existing Combiner Unit(s) are being undertaken. The Customer agrees and acknowledges that to allow the works it may be necessary for existing broadcast services to operate in certain abnormal configurations. Arqiva will need to obtain the agreement of its customers for these existing services to any abnormal configurations. Such customers may restrict the timings of these abnormal restrictions such that Arqiva cannot achieve completion of Combiner Unit installation or modifications in accordance with the Station Dates in Schedule 3. Any delay caused by such timing restrictions shall be deemed to be an Exceptional Risk.

SUBJECT TO CONTRACT

SCHEDULE 24

Ofcom Provisional Specification

See attached

15 September 2011

BY EMAIL

Macquarie UK Broadcast Holdings Limited
Crawley Court
Winchester
Hampshire
England
SO21 2QA

Dr H Nwana
Group Director, Spectrum Policy Group

Direct line: 020 7981 3581

h.nwana@ofcom.org.uk

Attention of: Peter Shore

Arqiva
Crawley Court
Winchester
Hampshire
England
SO21 2QA

Attention of: John Cresswell

Dear Sirs

Notice of Relevant Spectrum Auction and direction to prepare a Reference Offer under Section 10.4.1 and Section 12.4.1 of the Undertakings to the Competition Commission by Macquarie UK Broadcast Holdings Limited et al. of 1 September 2008 (“the Undertakings”)

This letter constitutes written notice of our intention to hold a Relevant Spectrum Auction, as defined and set out in the Undertakings.

In accordance with paragraph 10.4.1 and 12.4.1 of the undertakings, Ofcom hereby directs Arqiva to prepare Reference Offers for digital terrestrial television managed transmission services and network access following the specifications and the timetable set out below.

Background

We have previously discussed Ofcom’s intention to award spectrum in the range 550 MHz to 606 MHz (“the 600 MHz band”). To that effect, Ofcom published a consultation in February 2010¹ asking stakeholders about the potential uses of this spectrum, and an interim

¹http://stakeholders.ofcom.org.uk/binaries/consultations/600mhz_geographic/summary/600condoc.pdf

statement in October 2010 outlining stakeholder responses to the February 2010 consultation and next steps.

The responses we have received to our consultation, subsequent feedback from stakeholders and our own technical assessments suggest that a most likely use for the 600MHz band would be to provide DTT multiplexes. Ofcom commissioned Arqiva spectrum planners to update an illustrative study previously carried out for Ofcom² that illustrates how the band could be used to provide three UK-wide DTT multiplexes, known as “Layers 7, 8 and 9” (layers 1 to 6 are the six DSO multiplexes). We anticipate publishing the updated study on our website, alongside this letter and accompanying Requirements Specification.

Layers 7 and 8 could utilise three channels each in what is principally a multi-frequency network within which some adjacent transmitters operate in a single frequency network configuration. Layer 7 would use channels 31, 32 and 33 and Layer 8 would use channels 34, 35 and 37. It is envisaged that Layer 9 would occupy channel 36 only and operate as a UK-wide single frequency network. Our current thinking, on which we are planning to consult, is that the 600MHz band will be made available as separate lots, i.e. each 8MHz channel will be available individually. Participants in the auction would therefore be able to bid for just one channel, or combinations of channels. International rights vary between the channels and therefore only a few combinations are likely to be suitable if the aim is to provide UK-wide coverage. You should therefore be aware that combinations other than those identified in the Ofcom commissioned report may be possible, as is non-DTT use (subject to that use satisfying the appropriate technical licence conditions. Therefore possible outcomes from the award are that all, some or none of the spectrum may eventually be used to provide DTT services.

Specification

Arqiva should prepare a Reference Offer for Network Access (“NA”) and Transmission Services based upon the attached outline specification. Annex 1 to this letter includes a list of the relevant transmitter sites, together with an outline requirements specification that your Reference Offer team should use as the basis of their calculations. Details of the antenna templates based upon international restrictions will be forwarded under separate cover.

It is likely that the viability of additional DTT multiplexes making use of the 600MHz band will be determined to a large extent by the costs of transmission. We therefore strongly encourage Arqiva to think creatively about the technical arrangement presented within the Reference Offers, with a view to minimising costs. Arqiva is obliged to produce Reference Offers that include only costs that are reasonably and efficiently incurred and we intend to

²<http://stakeholders.ofcom.org.uk/binaries/spectrum/spectrum-policy-area/projects/ddr/ch21.pdf>

carry out an audit of the Reference Offers to ensure they comply with your cost orientation obligation.

Timetable

Arqiva should provide each Reference Offer to Ofcom by 30 November 2011 in accordance with paragraph 10.6 and 12.6 of the undertakings. We expect to hold regular meetings with Arqiva while the Reference Offers are under preparation with the aim of reviewing progress and addressing any issues that may arise.

Contact

If you would like to discuss any aspect of this notice and direction, please contact Peter Madry at peter.madry@ofcom.org.uk or 020 7783 4325 in the first instance.

Yours sincerely

A handwritten signature in black ink, appearing to be 'H Nwana', written in a cursive style.

H Nwana

cc. Alan Watson, Adjudicator, Broadcast Transmission Services

Kevin Moroney, Arqiva

**Production of Reference Offers in relation to
600MHz spectrum award - Requirements specification**

General

Ofcom is intending making available via auction the spectrum between 550 and 606MHz (channels 31 to 37) also known as “the 600MHz band”. The spectrum is expected to be awarded in 2012 and be available for use from the end of that year. One of the likely uses for this spectrum is to provide additional DTT multiplexes. Initial Ofcom studies have shown that three UK-wide multiplexes are feasible, the “600MHz multiplexes¹”. It is likely that these additional multiplexes will make use of existing transmission sites that are used to broadcast the six UK-wide “DSO multiplexes²”.

The UK’s international negotiations on spectrum rights in channels 31 – 37 have been based upon a notional additional three layers of DTT coverage across the UK. Arqiva spectrum planners have carried out a study to illustrate how the frequencies could be used to enable the UK transmitter network to provide three multiplexes using the 600MHz band. Ofcom is making information from this study available to Arqiva’s Reference Offer team in advance of its publication solely for the purposes of enabling work to commence in preparing reference offers. This information should not be shared with anyone within Arqiva that is, or may potentially be, involved in activities relating to Arqiva’s participation in any award of the 600MHz spectrum.

Format of Reference Offer

Arqiva shall produce Reference Offers for both Network Access and Transmission Services (being Network Access and Managed Transmission Services combined). As a guiding principle, Arqiva can assume that the 600MHz multiplexes would adopt a model similar to that of the three existing commercial DTT multiplexes.

The Reference Offers shall be based upon the most cost-effective solution for customers which may include a combination of the following arrangements:

- Existing infrastructure provided for the DSO multiplexes that could be shared by the 600MHz multiplexes with suitable modification to permit them to develop their maximum permissible powers to enable them to serve as large a proportion of the potential coverage area as possible
- Existing infrastructure provided for the DSO multiplexes that could be shared by the 600MHz multiplexes with suitable modification but with constraints such as a reduction in the maximum power that can be radiated
- Completely new infrastructure designed especially for the 600MHz multiplexes that would be shared by the three multiplexes and permit them to develop their maximum

¹ Carried in UHF channels 31 -37 which covers the frequency range 550-606 MHz.

² Muxes 1 and B (BBC), Mux 2 (Digital 3&4), Mux A (SDN), Muxes C and D (Arqiva)

permissible powers to serve as large a proportion of the potential coverage area as possible

Arqiva shall produce Reference Offers in sufficient detail to meet the requirements of this specification to enable potential participants in the 600MHz awards to assess the indicative costs of transmission. Reference Offers shall be provided that take into account the following situations with appropriate technical arrangements and cost apportionment:

- one 600 MHz multiplex is implemented at 80 transmitter sites as a single continuous programme of works
- three 600 MHz multiplexes are implemented as a single continuous programme of work at 80 transmitter sites

Existing and new infrastructure

The introduction of 600MHz multiplexes will in all cases require some degree of upgrading of the infrastructure at the existing transmission sites. It is our expectation that a combination of new and existing infrastructure will be needed to deliver any new DTT services.

Although it is understood that spare capacity has not been incorporated into antenna and feeder systems for the DSO multiplexes by design, some spare capacity may nevertheless exist. There may be occasions where it is possible from a technical perspective and is advantageous in terms of cost and time for implementation for the new 600MHz multiplexes to share infrastructure with the DSO multiplexes. It is also desirable that work aloft be avoided where possible to reduce the impact on viewers and on other users of the structure as well as reducing dependence upon seasonal build cycles.

In some cases, completely new antenna and combiner equipment will need to be installed to enable the broadcasting of the 600MHz multiplexes. This new equipment would generally be separate from that carrying the six UK-wide DSO multiplexes due to power, frequency and pattern constraints.

In producing the Reference Offers, Arqiva shall assess the capability of existing infrastructure to accommodate the 600MHz multiplexes. Below is some guidance on the methodology to be adopted to allow viable solutions to be presented in the Reference Offers to potential bidders.

Guideline 1: Where existing antennas at a particular transmitter site can be used to support the required 600MHz without compromise to the existing services then these shall be offered as the default solution provided that:

- the 600MHz service(s) can be accommodated within the existing antenna system and can operate at an ERP that is no more than 10dB less than set out in the schedule of powers in the Outline Network Requirements Specification.
- normal voltage and power safety factors are not exceeded
- antenna pattern ripple does not exceed 10dB

- antenna system return loss meets usual specification

Guideline 2: Where existing antennas cannot be used to support additional 600MHz services in accordance with Guideline 1, provision of an additional '600MHz Antenna' shall be proposed in which the antenna shall support 600MHz multiplexes at their full rated power. Such antennas shall be configured in two halves to all half antenna operation at -3dB relative to nominal ERP.

Below is an Outline Network specification for the 600MHz multiplexes.

Outline Network Requirements Specification

Network Access

Transmitter locations: Eighty principal sites as set out in Appendix A. There is flexibility to make use of alternative sites in some areas should it be disproportionately expensive or difficult to build at the principal site, perhaps due to congestion or loading of the structure. The alternative sites are set out in Table 1.

Table 1	
Principal site	Alternative
Black Hill	Kirk O'Shotts
Caldbeck	Sandale
CrystalPalace	Croydon
Divis	BlackMountain
Pontop Pike	Burnhope
Rowridge	Chillerton Down
Sutton Coldfield	Lichfield
Wenvoe	St Hilary

Number of multiplexes

Arqiva shall produce Reference Offers based upon one and three UK-wide multiplexes as set out in Table 2 at the eighty principal sites. Arqiva may also indicate the technical feasibility of providing five multiplexes at the top 20 locations.

Table 2		
Name	Type	Channel(s)
Layer 7	Multi-frequency network with regional synchronisation of some transmitters	31, 32, 33
Layer 8	Multi-frequency network with regional synchronisation of some transmitters	34, 35, 37
Layer 9	Single frequency network	36

Channel and ERP: Specified by transmitter site in Appendix B. These have been derived under work initiated by Ofcom by the Arqiva spectrum planners' 600MHz study which

assumes each transmitter operates at 4dB below the level at which it would just meet international obligations. This is to ensure that the power sum of all UK emissions does not breach internationally agreed limits.

Antenna templates: Templates have been developed under work initiated by Ofcom by Arqiva spectrum planners based upon best understanding of international rights as of Dec 2010. The patterns will be made available by Ofcom separately to this document. For Reference Offers, the Antenna pattern ripple should be consistent with the Antenna Templates specification for DSO multiplexes (except as set out in Guideline 1 above). Reference offers do not need to include for helicopter testing of antenna patterns.

Antenna system configuration

If a new antenna is required at a site, the new antenna should be mounted as high as reasonably possible on the structure within available aperture. The new antenna should be split into two halves, both of which are normally in use. Under fault conditions, reconfiguration should permit full transmitter power to be fed into one half of the antenna which should be suitably rated to maintain ERP no less than 3dB below normal.

Combiner configuration

Dual combiners are required at the 50 main transmitter sites. At the 30 smaller sites either dual or single combiners with a split output are acceptable.

Power system

Dual power feeds are required to the 50 main transmitters where this is achievable at reasonable cost. Single feeds are acceptable elsewhere. Back-up generators should be included to meet the stated availability. Assumptions for transmitter efficiency should be consistent with that allowed for the DSO multiplexes or where applicable manufacturer's latest available information at the time the Reference Offers are drafted.

Managed Transmission Service

Transmitter system

The transmitter system should be designed to accept two separate input feeds from diverse sources. Encoding of programme services, multiplexing SI Management and distribution from multiplexing centre(s) to transmitter sites may be carried out by others and lie outside the scope of the Transmission Reference Offer.

Equipment architecture shall employ duplication or be configured such that failure of a single component or module does not lead to a complete loss of service. Temporary reductions in output power under fault conditions are permissible. For guidance, we would expect that power reductions should be no more than 6dB for faults that can be rectified within 12 hours or 3 dB for faults that are likely to take longer to resolve.

Arqiva should set out in the offer what the maximum reduction in power is likely to be under fault conditions.

Transmitter power

Transmitter systems shall be rated to permit the maximum ERP set out in the schedule of powers in Appendix B to be achieved (except as noted in Guideline1 above).

Single frequency operation

Arqiva shall make allowance in the Reference Offers for the necessary infrastructure to permit the Layer 9 multiplex to operate as a UK-wide single frequency network. Whilst Layers 7 and 8 are nominally multi-frequency networks, Arqiva shall make allowance for a number of stations within those networks to operate as single frequency networks, these are detailed in Table 3.

Table 3	Transmitters in SFN	Channels
1	Tacolneston, Sudbury	31, 37
2	Carmel, Preseli	32, 35
3	Crystal Palace, Reigate, Guildford	33, 35
4	Sutton Coldfield, Bromsgrove, The Wrekin	33, 35
5	Winter Hill, Saddleworth, Storeton	31, 37
6	Emley Moor, Chesterfield	32, 34
7	Wenvoe, Kilvey Hill, Pontypool	31, 37
8	Waltham, Nottingham	31, 37
9	Mendip, Bristol Ilchester Crescent, Bristol Kings Weston	33, 35
10	Rowridge, Salisbury, Midhurst	31, 37
11	Llanddona, Moel-y-Parc	32
12	Heathfield, Hastings	32, 34

Availability

The system specified in the reference offer shall be designed to achieve a minimum in-service availability of 99.9% averaged over a rolling twelve month period.

Monitoring

All transmitter sites shall incorporate facilities to monitor the status of the transmission equipment and confirm normal operation. It is desirable for a degree of remote control to be incorporated (for example resetting of trips and changeover systems where this can be safely carried out remotely).

Timetable

Delivery of reference offer	30 Nov 2011
Award of spectrum	2012
Service launch - to include nations capital cities where feasible	early 2014
Expansion of network	2015-16
Completion of rollout	2017

Appendix A – List of principal transmitters

Site name	Main transmitter	Site Name	Main transmitter
ABERDARE		LANCASTER	
ANGUS	Y	LARK STOKE	
BEACON HILL	Y	LIMAVADY	Y
BELMONT	Y	LLANDDONA	Y
BILSDALE	Y	MALVERN	
BLACK HILL	Y	MENDIP	Y
BLAENPLWYF	Y	MIDHURST	Y
BLUEBELL HILL	Y	MOEL Y PARC	Y
BRESSAY	Y	NOTTINGHAM	
BRIERLEY HILL		OLIVERS MOUNT	
BRISTOL ILCHESTER CR		OXFORD	Y
BRISTOL KINGS WESTON		PENDLEFOREST	
BROMSGROVE		PLYMPTON	
BROUGH MOUNTAIN	Y	PONTOP PIKE	Y
CALDBECK	Y	PONTYPOOL	
CARADON HILL	Y	PRESELI	Y
CARMEL	Y	REDRUTH	Y
CHATTON	Y	REIGATE	
CHESTERFIELD		RIDGE HILL	Y
CRAIGKELLY	Y	ROSEMARKIE	Y
CRYSTAL PALACE	Y	ROSNEATH VP	
DARVEL	Y	ROWRIDGE	Y
DIVIS	Y	RUMSTER FOREST	Y
DOVER	Y	SADDLEWORTH	
DURRIS	Y	SALISBURY	
EITSHAL	Y	SANDY HEATH	Y
EMLEY MOOR	Y	SELKIRK	Y
FENHAM		SHEFFIELD	
FENTON		STOCKLAND HILL	Y
GUILDFORD		STORETON	
HANNINGTON	Y	SUDBURY	Y
HASTINGS		SUTTON COLDFIELD	Y
HEATHFIELD	Y	TACOLNESTON	Y
HEMEL HEMPSTEAD		THE WREKIN	Y
HUNTS HAWK CROSS	Y	TOROSAY	Y
IDLE		TUNBRIDGE WELLS	
KEELY LANG HILL	Y	WALTHAM	Y
KEIGHLEY		WENVOE	Y
KILVEY HILL		WHITEHAWK HILL	
KNOCKMORE	Y	WINTER HILL	Y

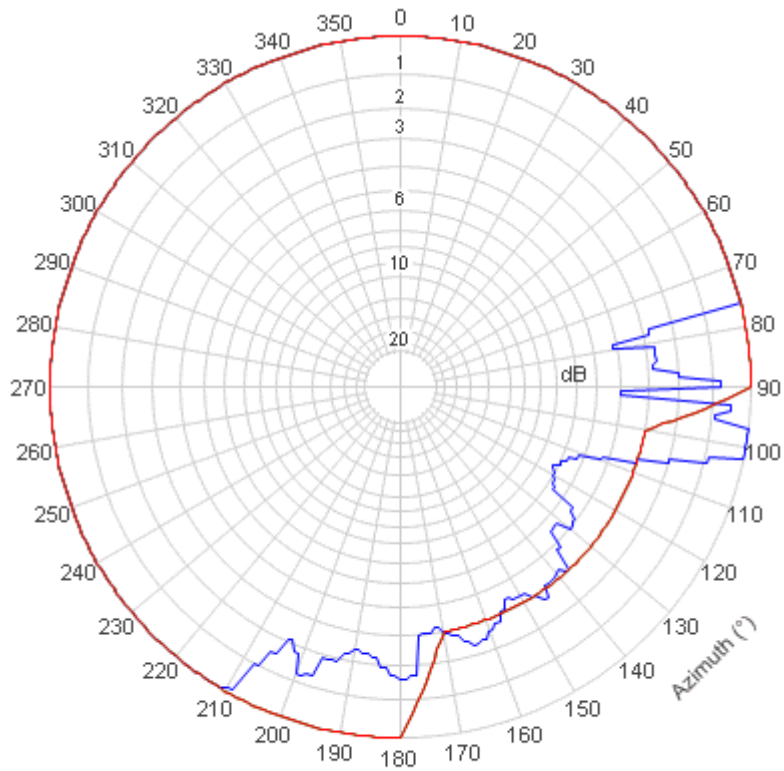
Appendix B – Schedule of transmitter channels and powers

Site ID	Site Name	TLA	Channels	Maximum ERP (kW)
10100	CrystalPalace	CP	33,35,36	200
10101	Guildford	GI	33,35,36	2
10103	Reigate	REI	33,35,36	2
10104	Tunbridge Wells	TW	31,37,36	4
10105	Hemel Hempstead	HH	31,37,36	2
10200	Sutton Coldfield	SC	33,35,36	200
10203	Brierley Hill	BOF	31,37,36	2
10206	Bromsgrove	BGE	33,35,36	0.4
10207	Malvern	MVR	31,37,36	0.4
10208	Lark Stoke	LKK	32,34,36	1.26
10211	Fenton	FNT	32,34,36	2
10300	Winter Hill	WRH	31,37,36	100
10302	PendleForest	PLF	33,35,36	0.1
10306	Saddleworth	SWH	31,37,36	0.4
10307	Storeton	SEN	31,37,36	0.56
10335	Lancaster	LCR	33,34,36	2
10400	Emley Moor	MLM	32,34,36	200
10403	Sheffield	SF	31,37,36	1
10405	Chesterfield	CD	32,34,36	0.4
10407	Keighley	KJ	31,37,36	2
10413	Idle	IDL	33,35,36	0.05
10500	Black Hill	BKH	32,35,36	100
10510	Torosay	TOY	31,37,36	4
10600	Wenvoe	WV	31,37,36	100
10601	Kilvey Hill	KVH	31,37,36	2
10606	Aberdare	ABR	32,34,36	0.1
10615	Pontypool	PPL	31,37,36	0.05
10700	Divis	DIV	33,34,36	100
10800	Rowridge	ROW	31,37,36	200
10801	Salisbury	SA	31,37,36	2
10805	Whitehawk Hill	WL	33,35,36	4
10860	Rowridge VP	ROW	31,37,36	200
10900	Pontop Pike	PP	33,34,36	100
10903	Fenham	FNH	31,37,36	0.4
11000	Mendip	MEN	33,35,36	100
11007	Bristol Kings Weston	BSK	33,35,36	0.2
11008	Bristol Ilchester Crescent	BSL	33,35,36	0.2
11100	Waltham	WBF	31,37,36	50
11101	Nottingham	NOU	31,37,36	0.4
11200	Durriss	DUS	32,35,36	100
11300	Dover	DOV	33,35,36	100

Site ID	Site Name	TLA	Channels	Maximum ERP (kW)
11400	Tacolneston	TAC	31,37,36	100
11500	Sudbury	SUY	31,37,36	100
11600	Bilsdale	BIL	31,37,36	100
11700	Oxford	OF	31,37,36	100
11800	Llanddona	LLA	32,35,36	20
11900	Carmel	CRL	32,35,36	20
12000	Belmont	BMN	33,35,36	200
12002	Olivers Mount	OMT	32,34,36	2
12100	The Wrekin	WRK	33,35,36	20
12300	Angus	AGU	31,37,36	20
12400	Sandy Heath	SDT	32,34,36	200
12500	Midhurst	MH	31,37,36	20
12600	Hannington	HAN	32,34,36	50
12900	Presely	PRS	32,35,36	20
13000	Limavady	LTS	32,35	20
13100	Caradon Hill	CNH	31,37,36	100
13105	Plympton	PTN	32,35,36	0.4
13200	Stockland Hill	SDL	32,37,36	50
13400	Keelylang Hill	KEE	33,34,36	20
13402	Bressay	BRQ	31,37,36	2
13500	Blaenplwyf	BY	31,37,36	40
13600	Beacon Hill	BNL	33,34,36	20
13700	Caldbeck	CDK	32,35,36	100
13800	Huntshaw Cross	HC	33,34,36	20
13900	Heathfield	HJV	32,34,36	20
13902	Hastings	HS	32,34,36	1
14100	Redruth	RR	33,34,36	20
14500	Moel Y Parc	MYP	32,34,36	20
14700	Craigkelly	CGK	33,34,36	20
14800	RumsterForest	RMF	32,35,36	20
14900	Ridge Hill	RHA	32,34,36	20
15100	BrougherMountain	BRM	31,37	20
15200	Darvel	DVL	31,37,36	20
15211	Rosneath VP	ROS	33,34,36	2
15300	Knockmore	KMR	33,34,36	20
15400	Eitshal	ETL	33,34,36	20
15500	Chatton	CHN	32,35,36	20
15600	Rosemarkie	RK	31,37,36	20
15800	Bluebell Hill	BBL	32,34,36	20
16100	Selkirk	SXJ	31,37,36	10

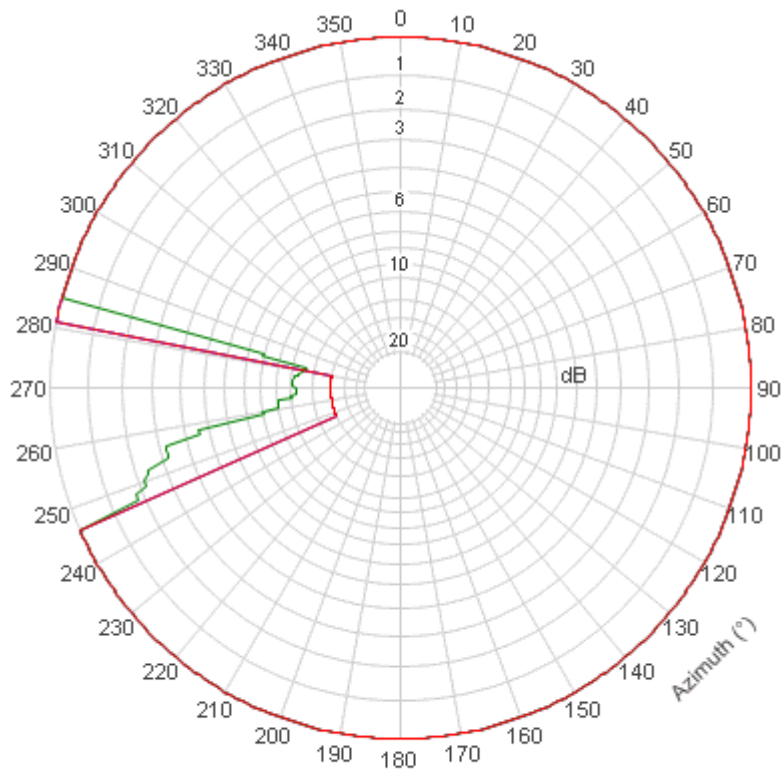
600 MHz Reference Offer
Summary of Pattern Restrictions

Station	Main/ Relay	Pattern Restricted?	Maximum restriction dB		
			Layer 7	Layer 8	Layer 9
Angus	M	No			
Beacon Hill	M		7	13	22
Belmont	M		0	0	1
Bilsdale	M	No			
Black Hill	M	No			
Blaenplwyf	M		18	18	28
Bluebell Hill	M		8	5	4
Bressay	M	No			
Brougher Mountain	M		5	5	*
Caldbeck	M		0	0	12
Caradon Hill	M		7	20	20
Carmel	M	No			
Chatton	M		8	8	0
Craigkelly	M	No			
Crystal Palace	M		3	3	6
Darvel	M		0	0	1
Divis	M		0	0	26
Dover	M		22	26	30
Durris	M	No			
Eitshal	M	No			
Emley Moor	M	No			
Hannington	M		2	5	1
Heathfield	M		20	13	14
Huntshaw Cross	M		11	11	12
Keelylang Hill	M	No			
Knockmore	M	No			*
Limavady	M	No			
Llandona	M		0	0	12
Mendip	M		2	10	7
Midhurst	M		4	8	9
Moel y parc	M		0	0	11
Oxford	M		0	4	0
Pontop Pike	M	No			
Presely	M		0	0	18
Redruth	M		3	10	13
Ridge Hill	M	No			
Rosemarkie	M	No			
Rowridge	M		31	33	34
Rumster Forest	M	No			
Sandy Heath	M		1	3	0
Selkirk	M	No			
Stockland Hill	M		0	26	20
Sudbury	M		13	8	18
Sutton Coldfield	M	No			
Tacolneston	M		3	5	6
The Wrekin	M	No			
Torosay	M	No			
Waltham	M	No			
Wenvoe	M		1	3	1
Winter Hill	M		14	14	11
Aberdare	R	No			
Brierley Hill	R	No			
Bristol Ilchester Crescent	R	No			
Bristol Kings Weston	R	No			
Bromsgrove	R	No			
Chesterfield	R	No			
Fenham	R	No			
Fenton	R	No			
Guildford	R		3	0	0
Hastings	R		14	14	20
Hemel Hempstead	R	No			
Idle	R	No			
Keighley	R	No			
Kilvey Hill	R	No			
Lancaster	R		0	0	5
Larkstoke	R	No			
Malvern	R	No			
Nottingham	R	No			
Olivers Mount	R	No			
Pendle Forest	R	No			
Plympton	R		7	7	0
Pontypool	R	No			
Reigate	R		3	0	0
Rosneath	R	No			
Saddleworth	R	No			
Salisbury	R	No			
Sheffield	R	No			
Storeton	R	No			
Tunbridge Wells	R	No			
Whitehawk Hill	R		9	13	20



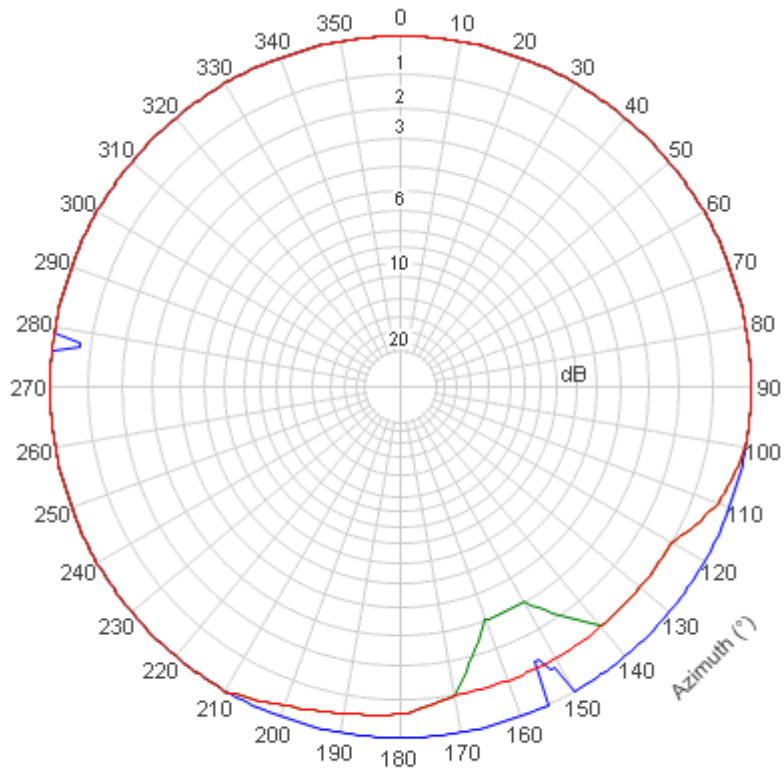
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Crystal Palace



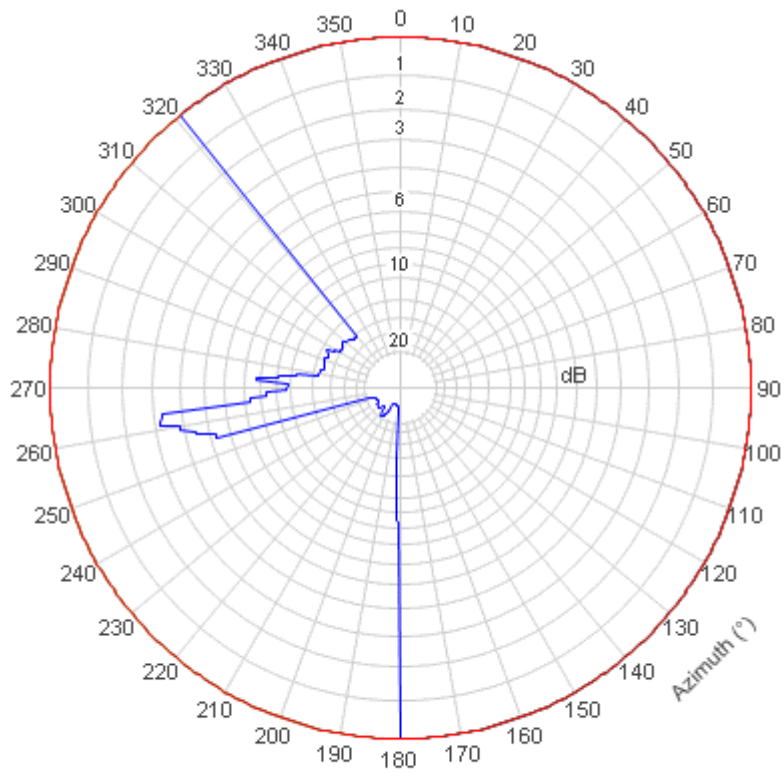
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Winter Hill



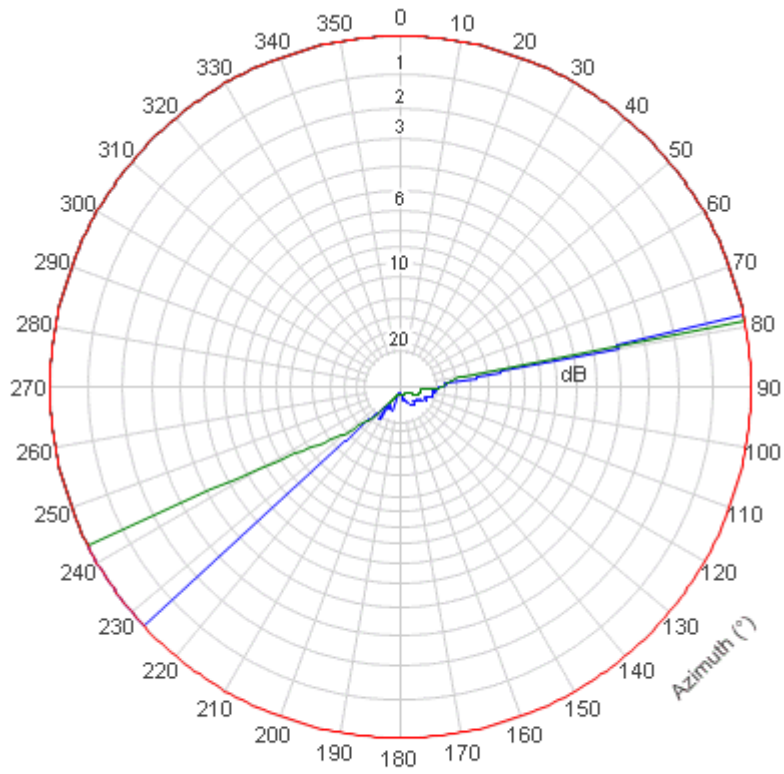
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Wenvoe



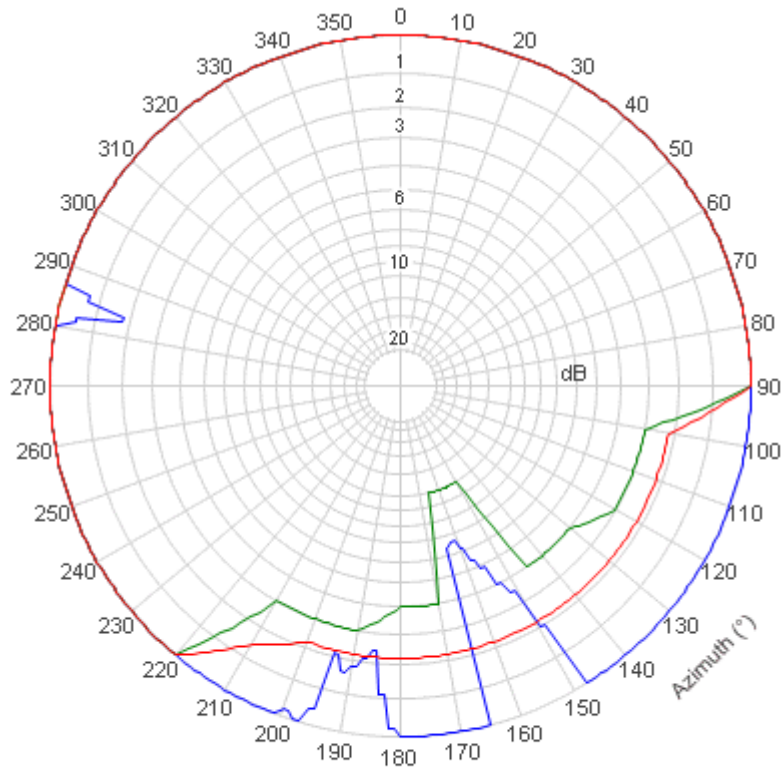
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Divis



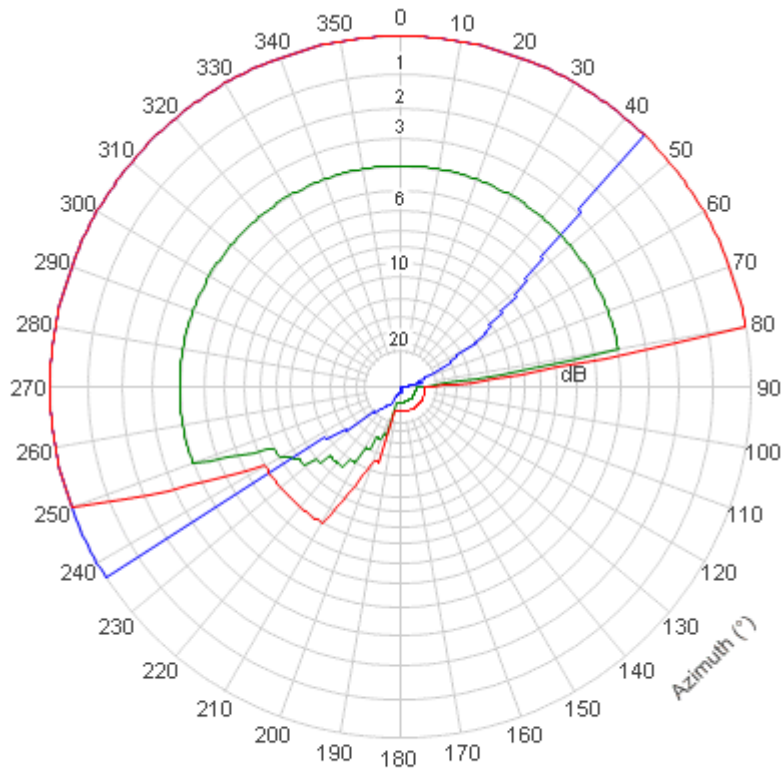
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Rowridge



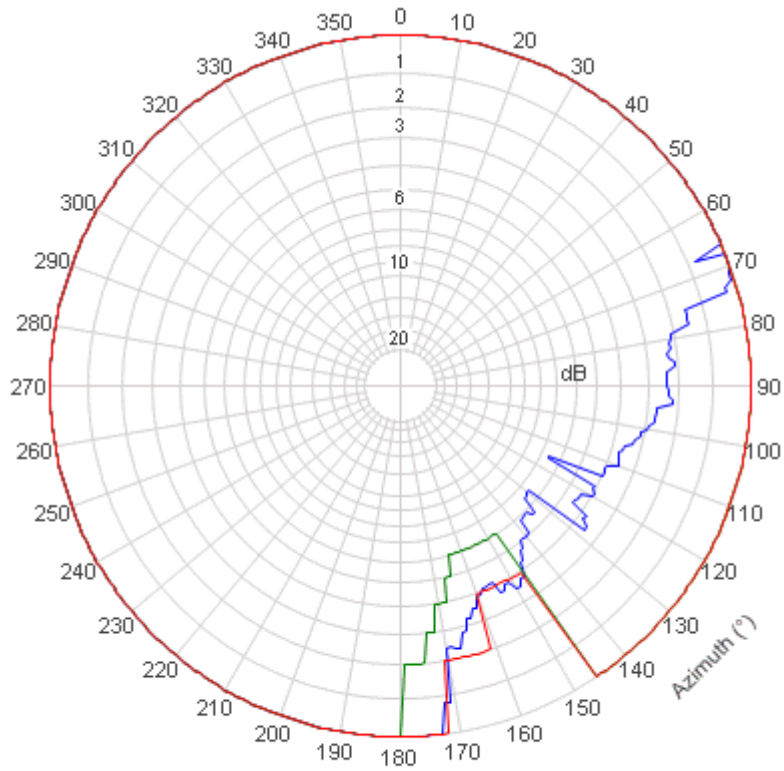
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Mendip



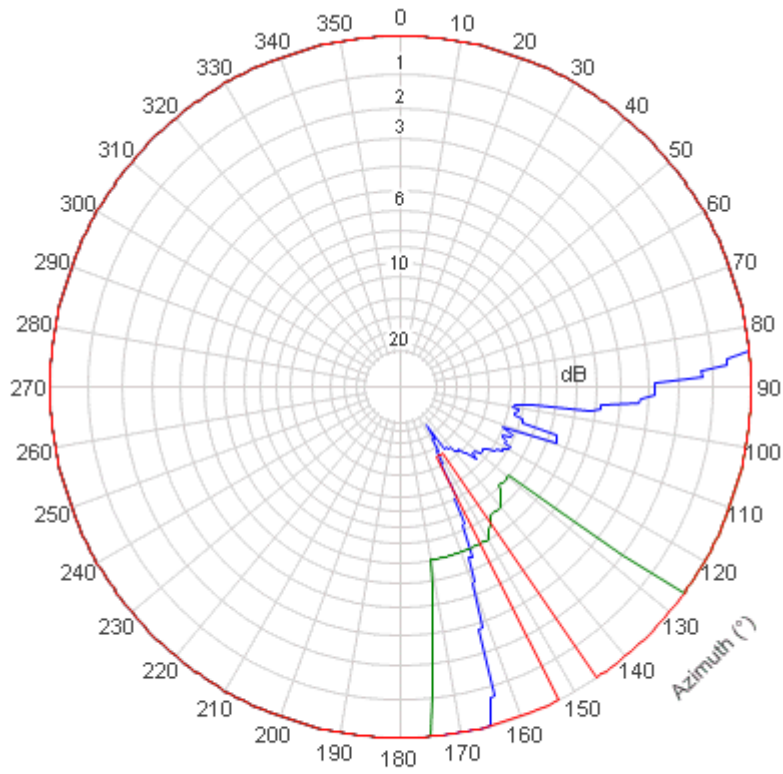
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Dover



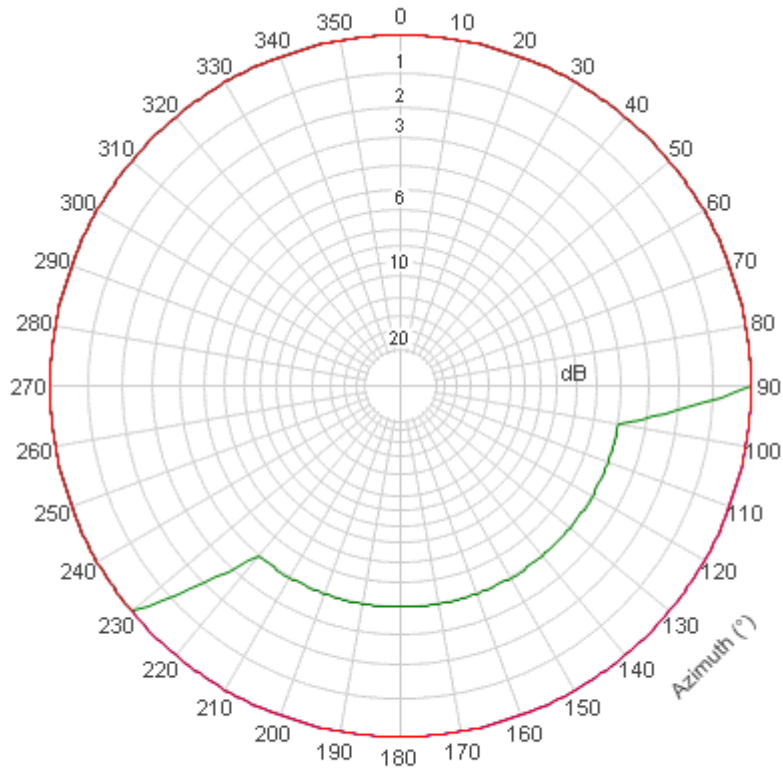
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Tacolneston



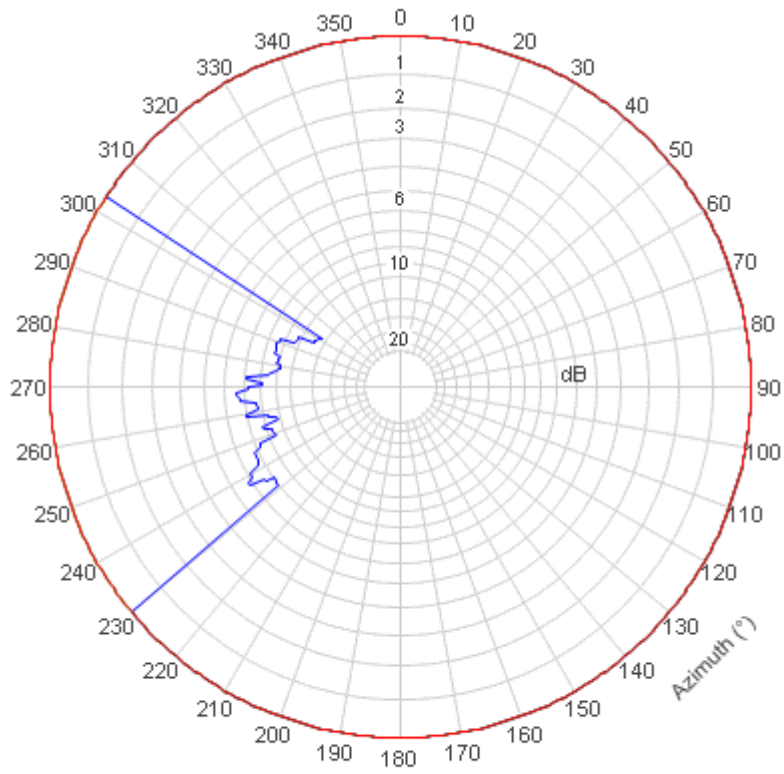
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Sudbury



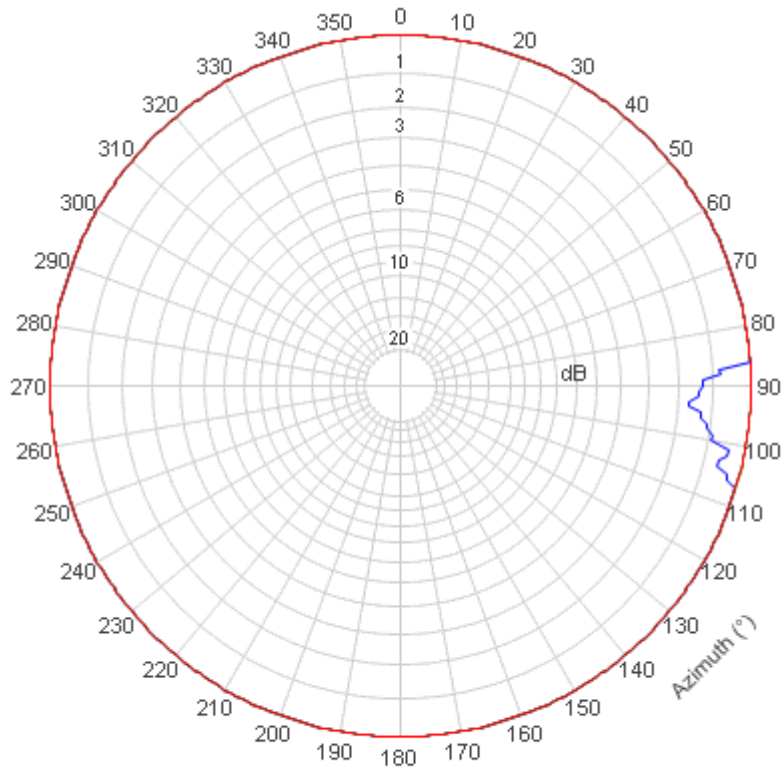
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Oxford



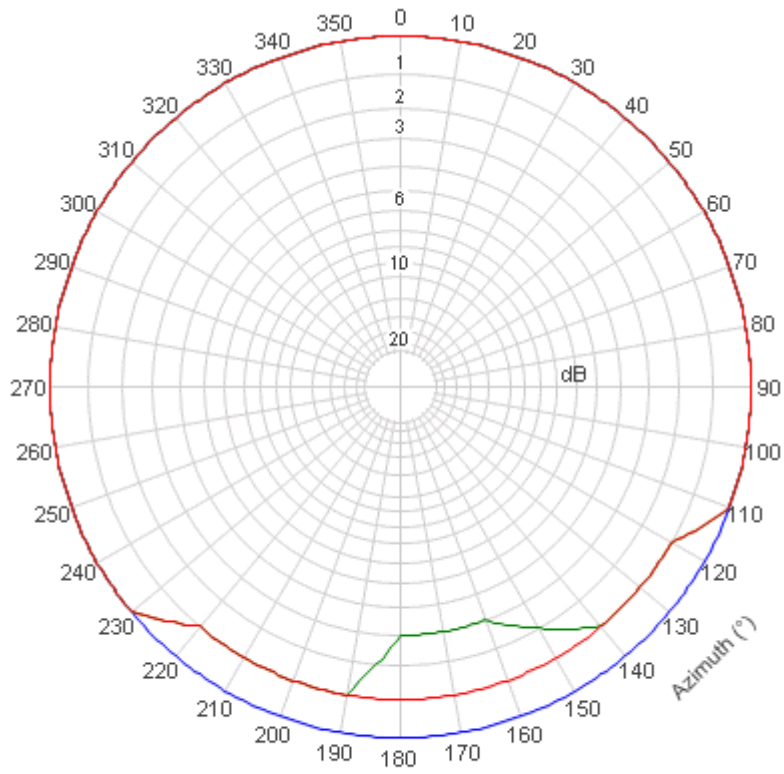
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Llanddona



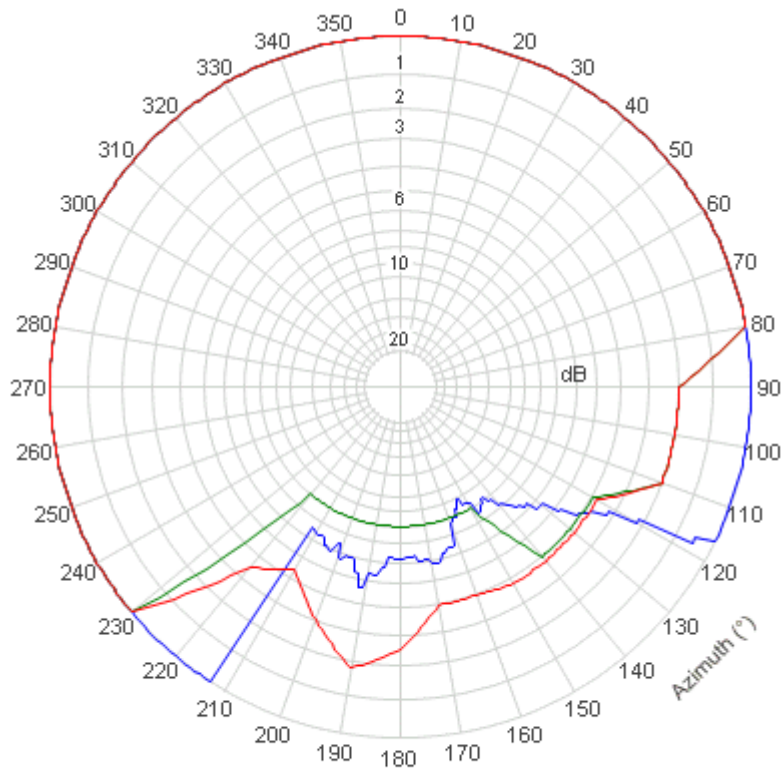
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Belmont



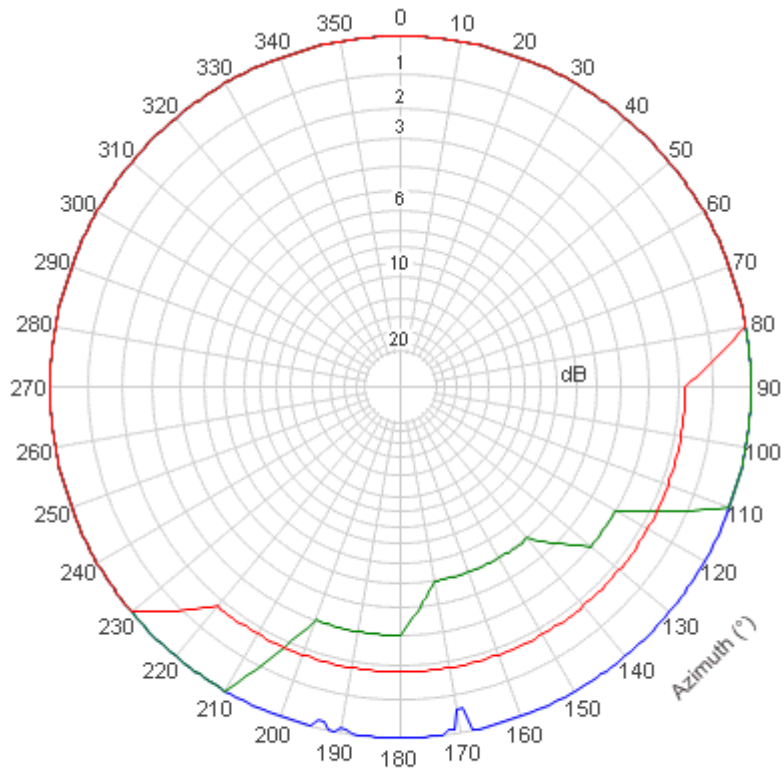
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Sandy



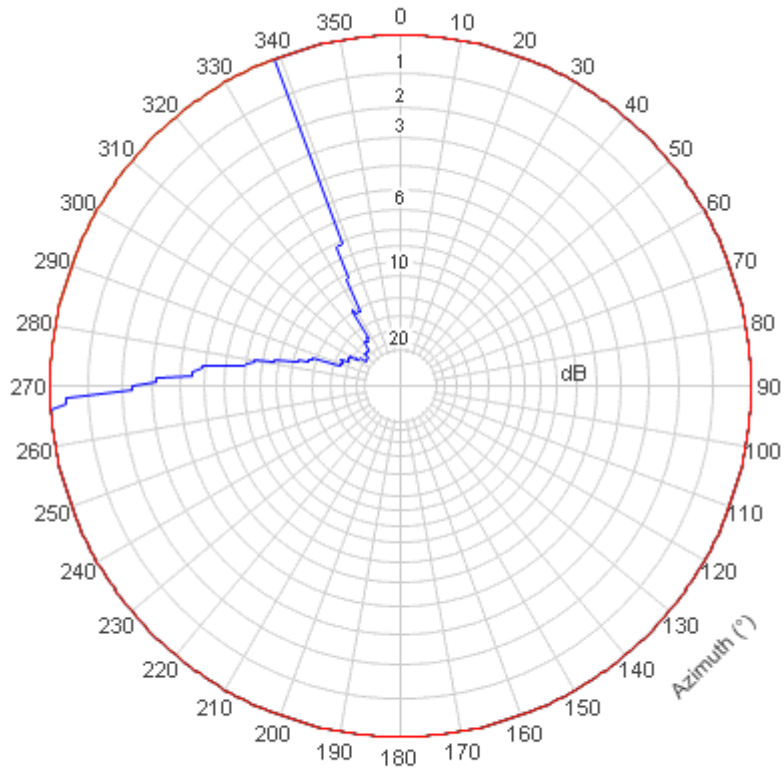
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Midhurst



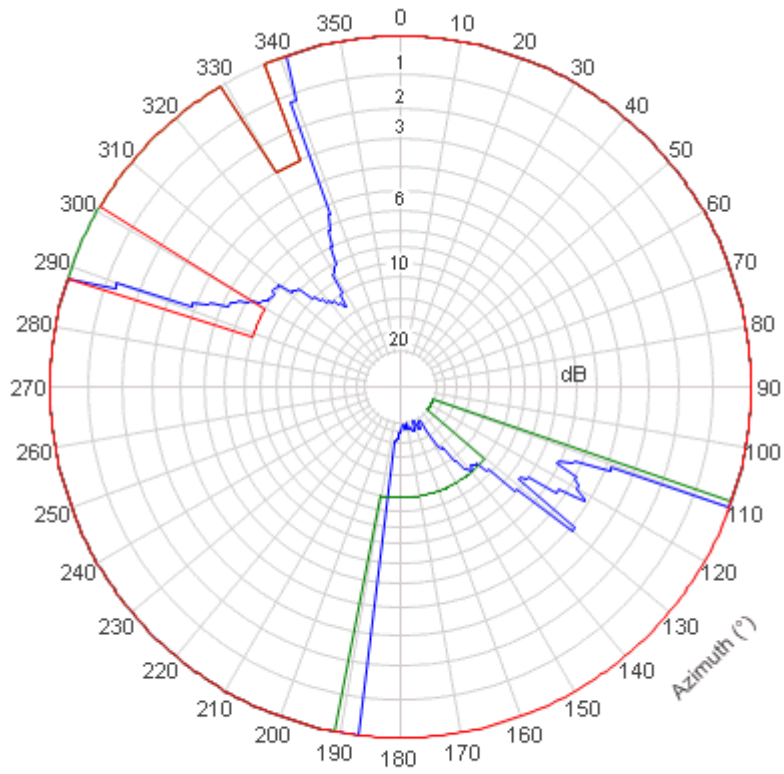
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Hannington



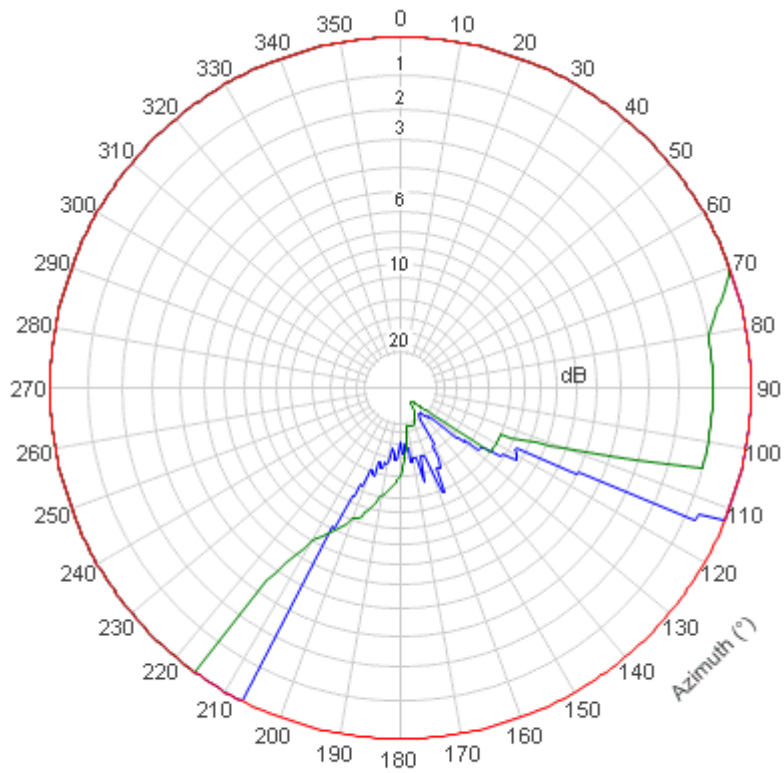
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Presely



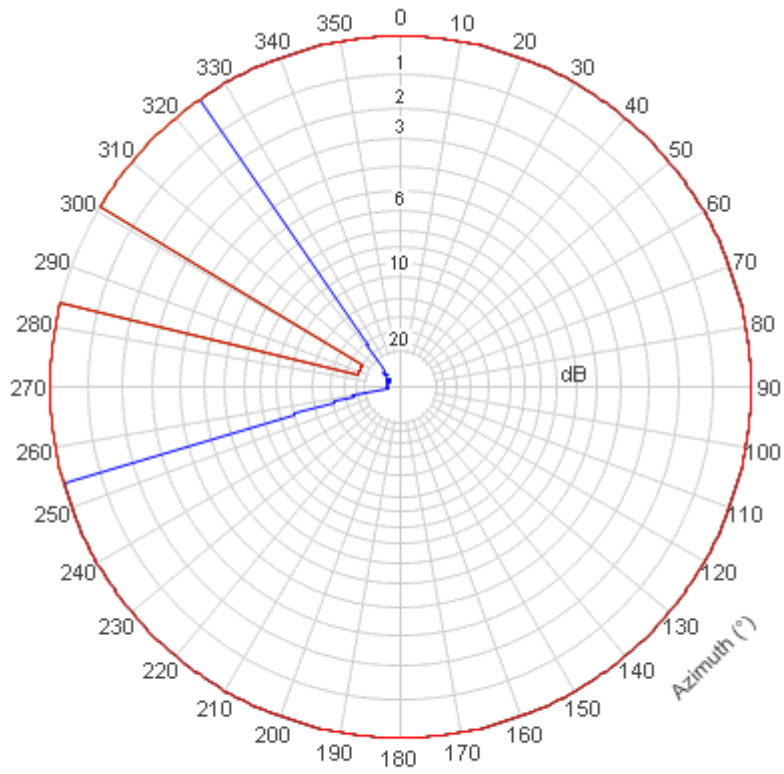
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Caradon Hill



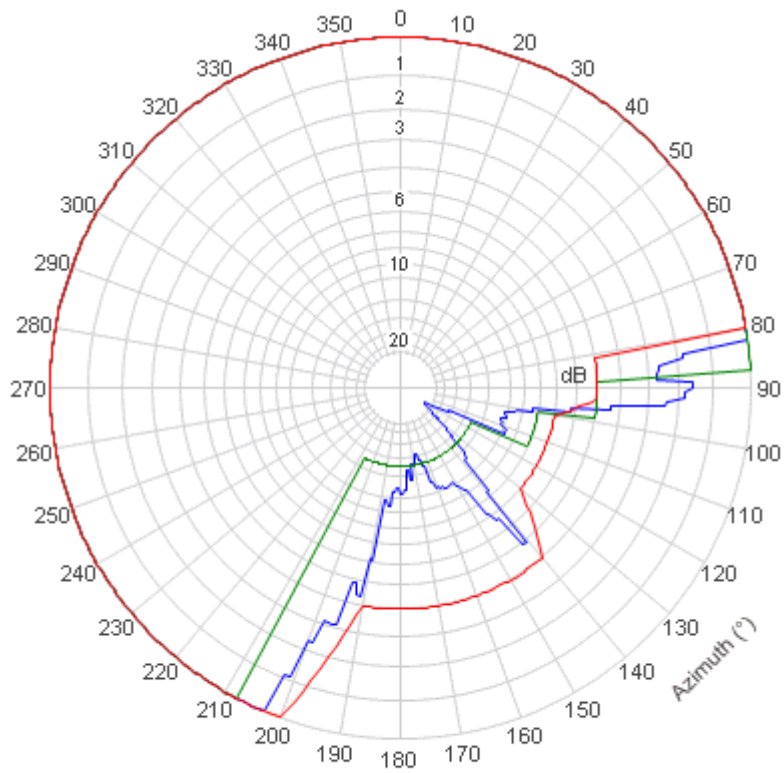
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Stockland Hill



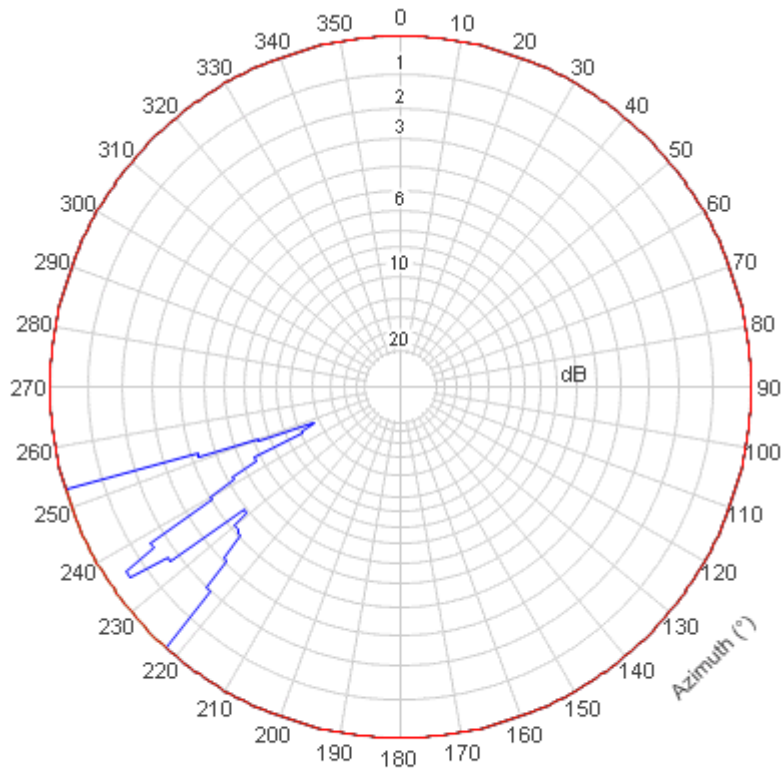
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Blaenplwyf



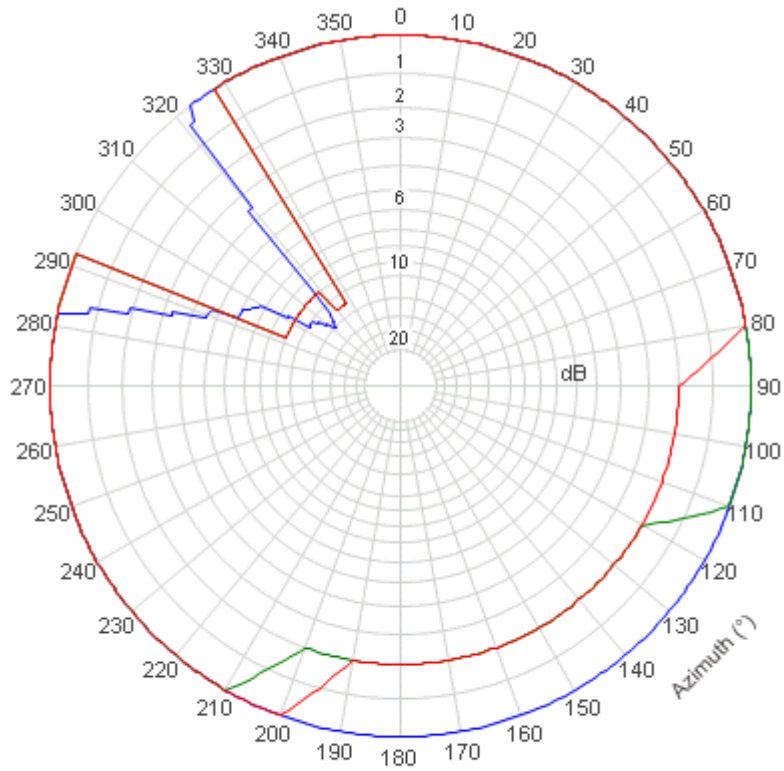
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Beacon Hill



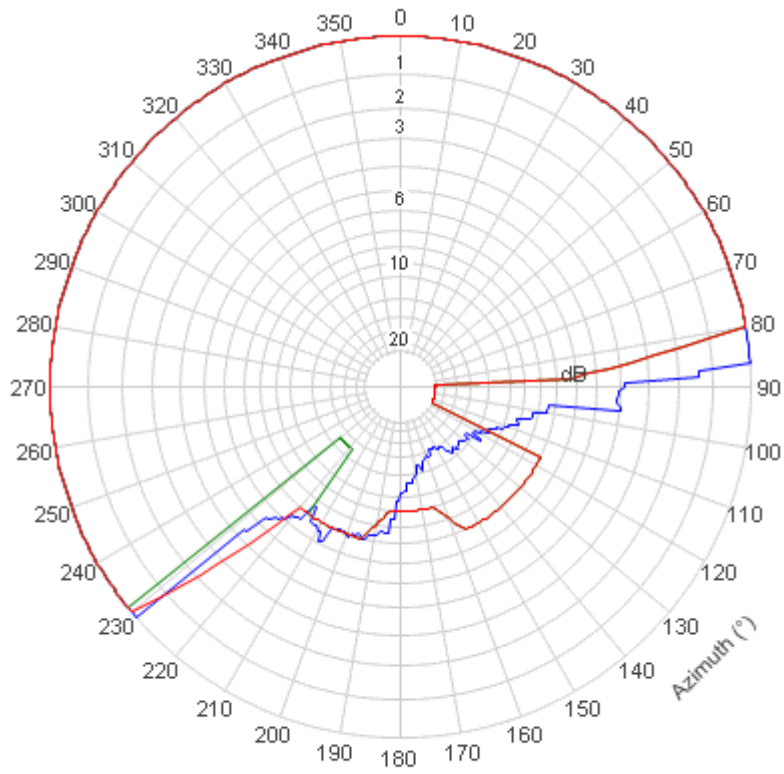
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Caldbeck



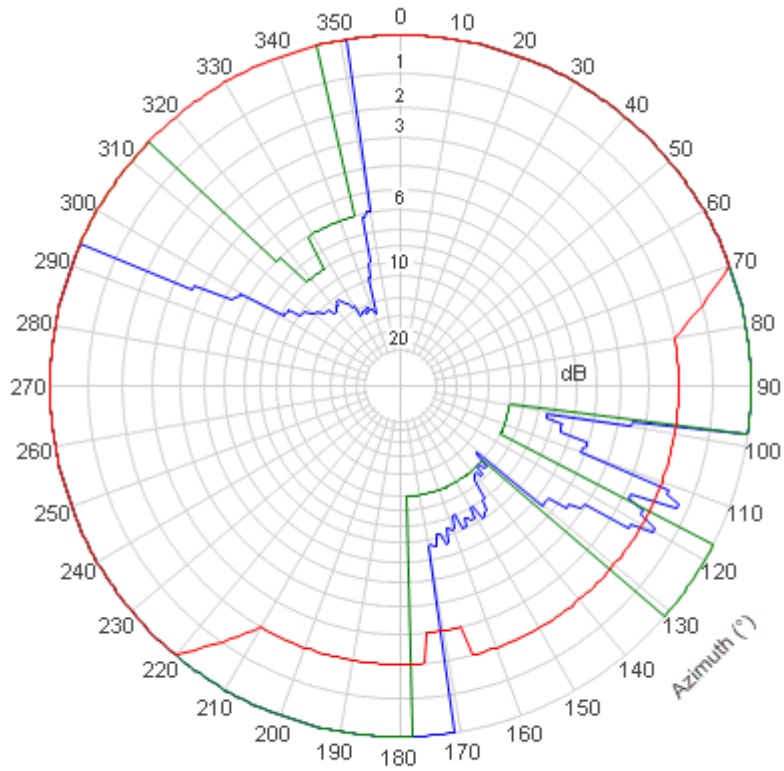
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Huntshaw Cross



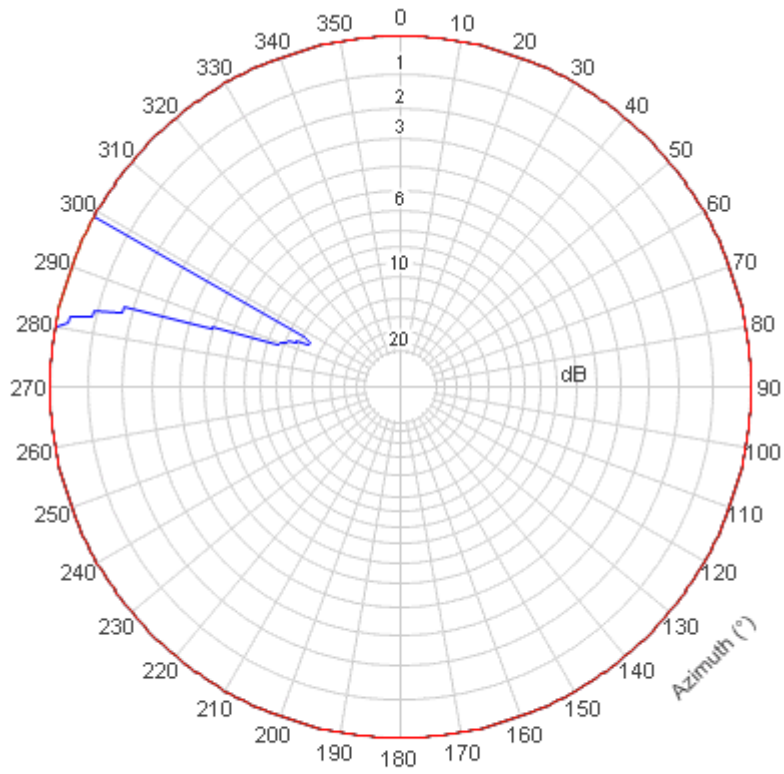
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Heathfield



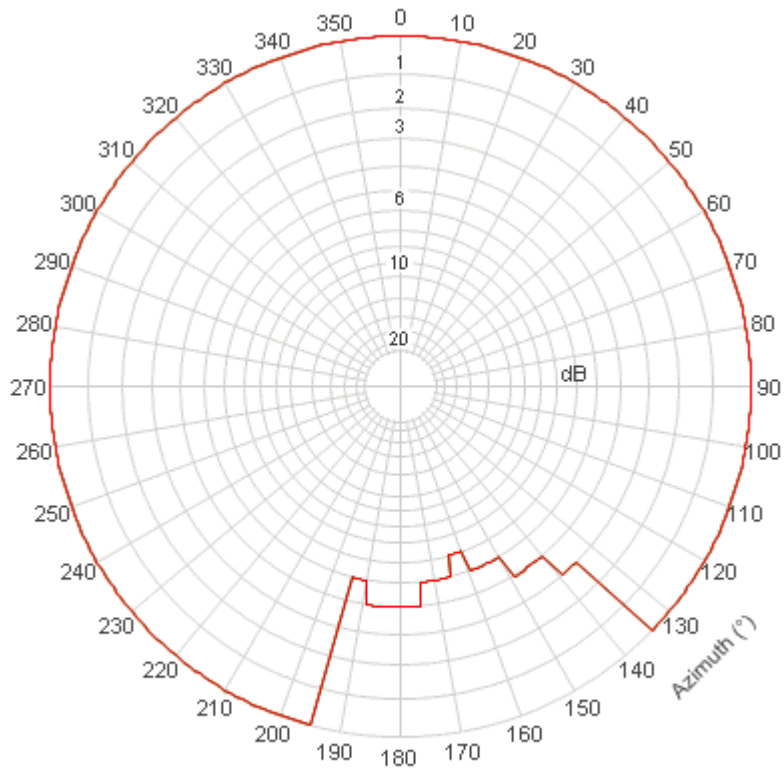
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Redruth



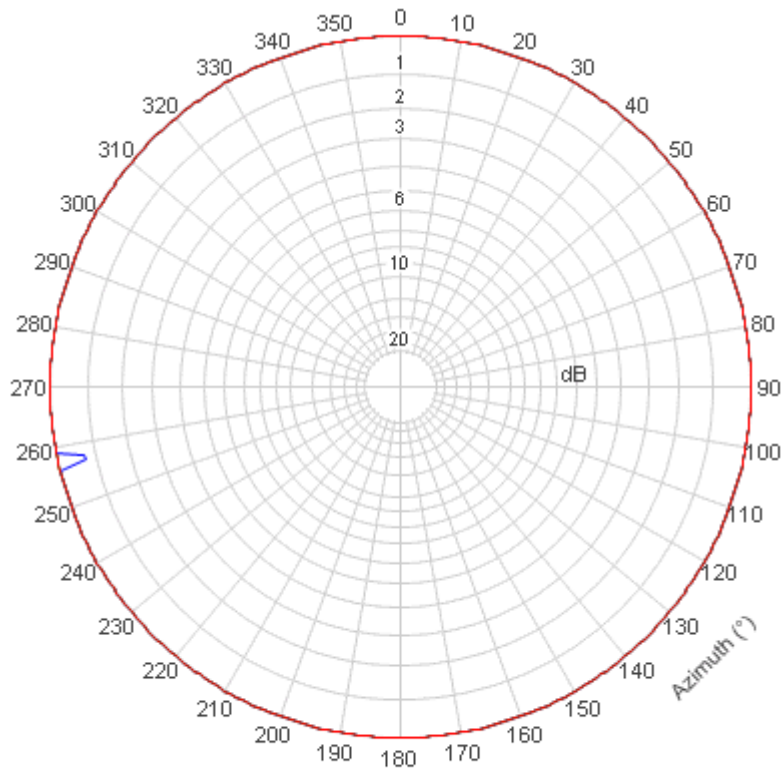
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Moel Y Parc



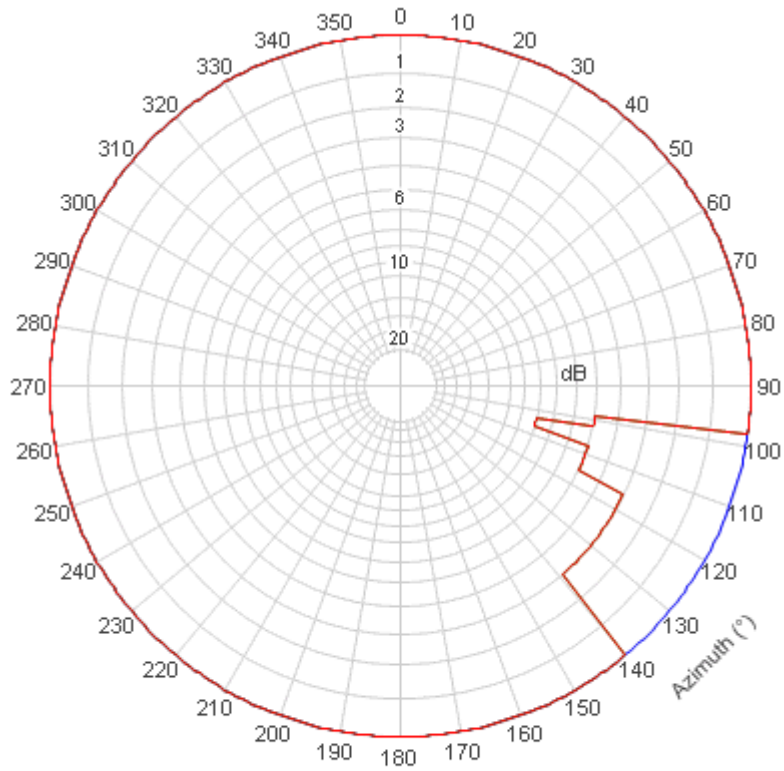
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Brougher Mountain



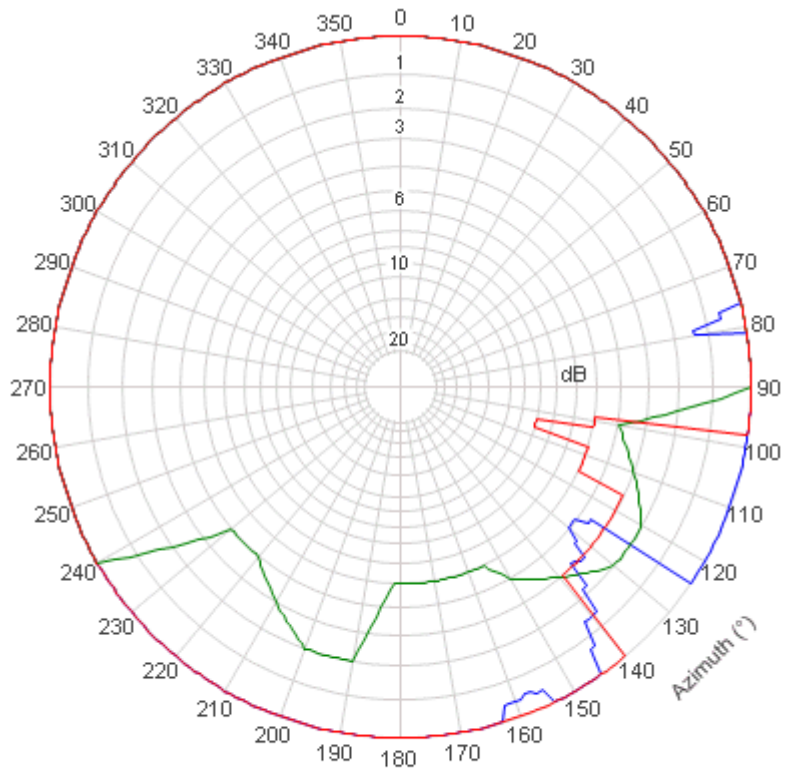
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Darvel



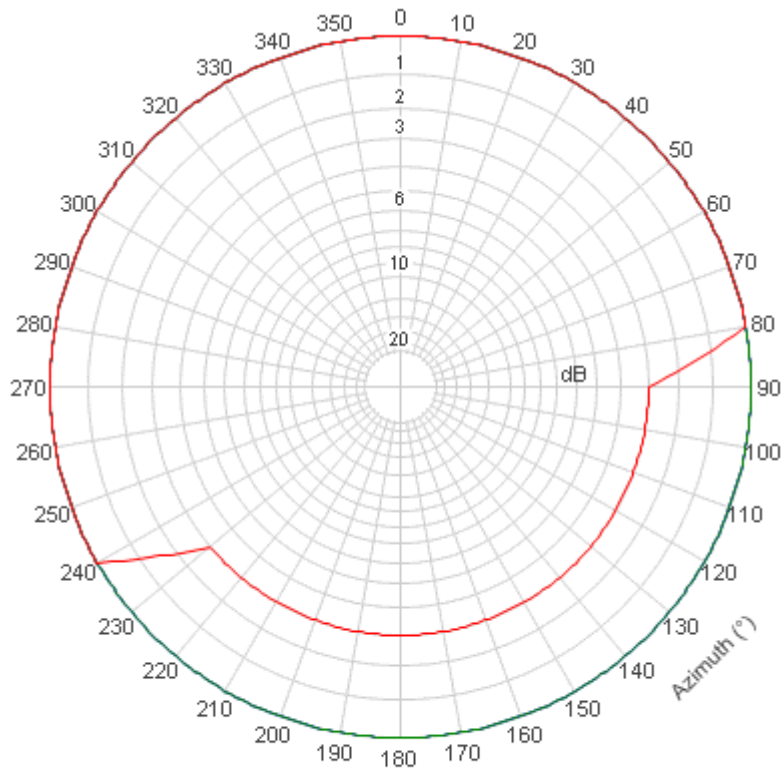
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Chatton



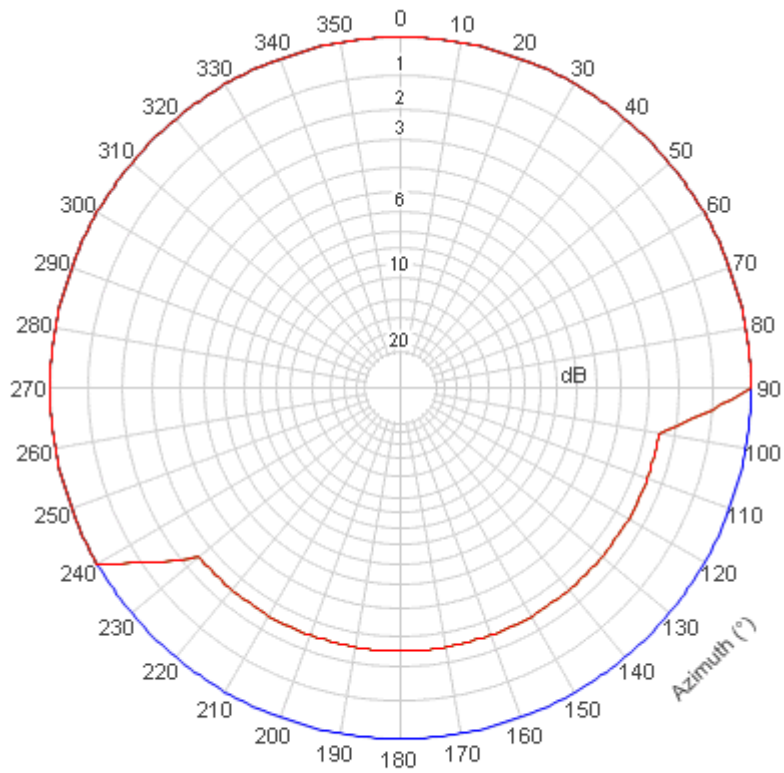
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Bluebell Hill



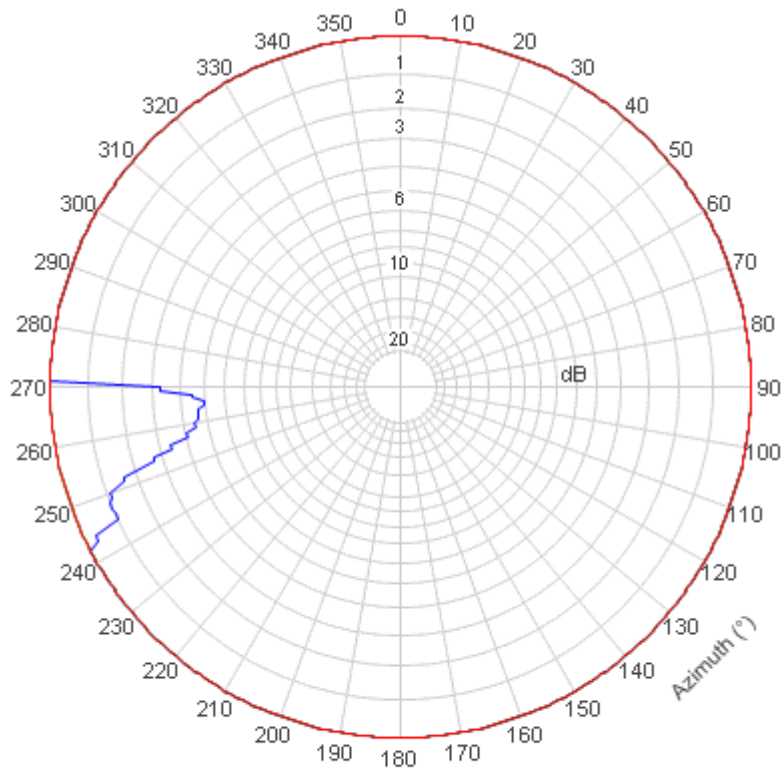
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Guildford



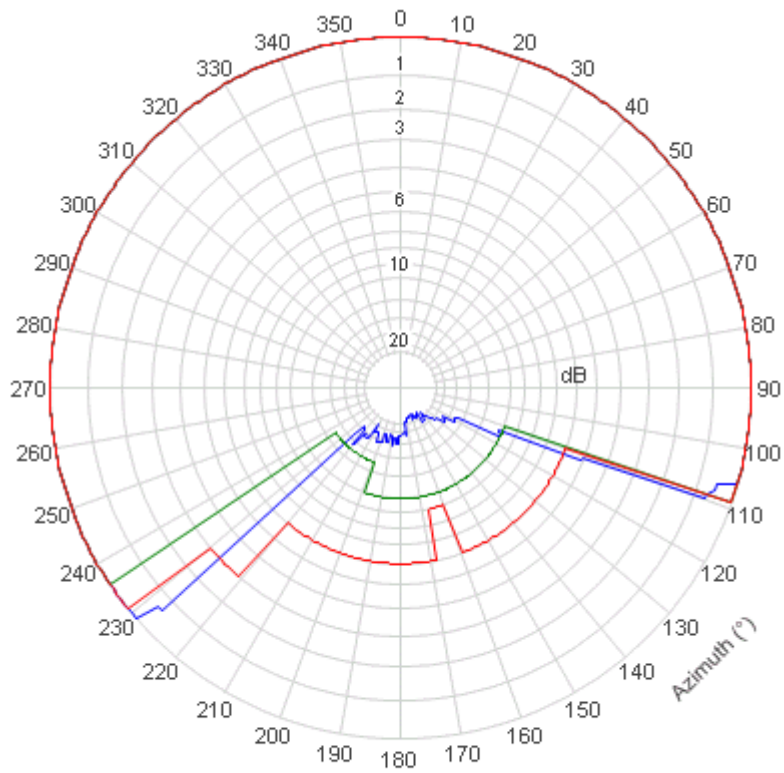
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Reigate



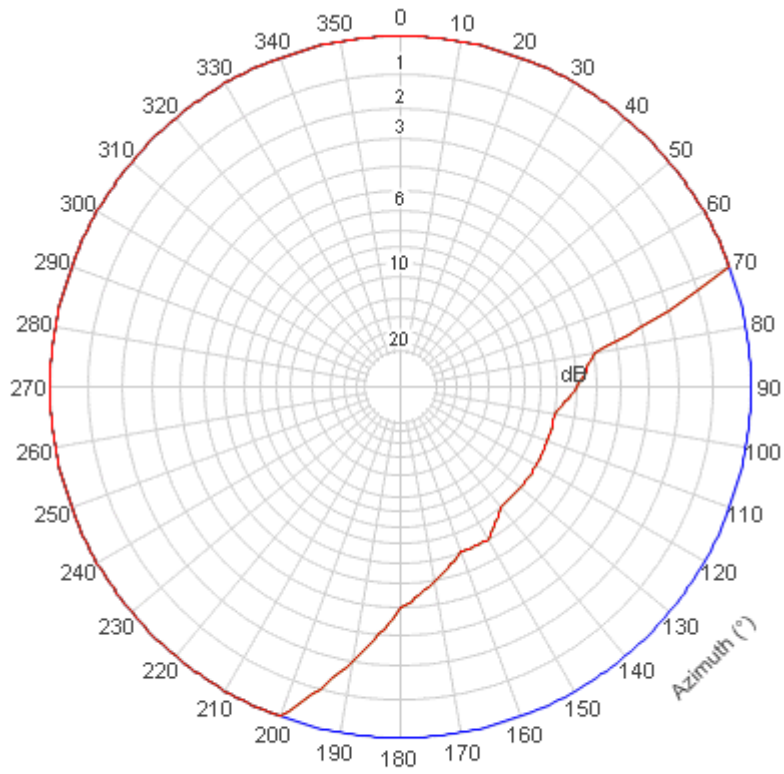
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Lancaster



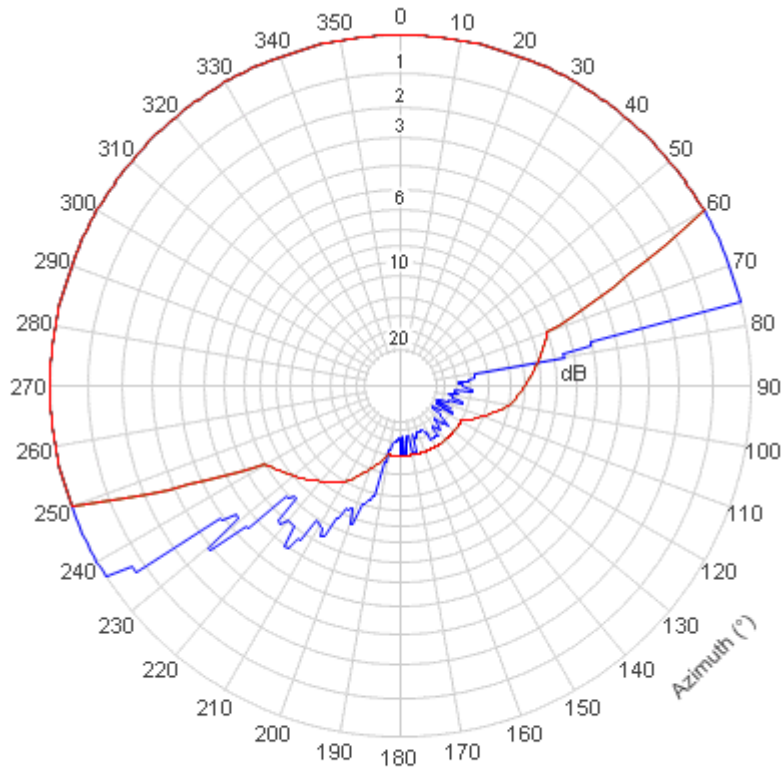
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[GT10805_36C20110106.PLT](#)

Whitehawk Hill



[GT13105_32C20110106.plt](#)
[GT13105_35C20110106.plt](#)
[GT13105_36C20110106.PLT](#)

Plympton



[GT13902_32C20110106.plt](#)
[GT13902_34C20110106.plt](#)
[GT13902_36C20110106.PLT](#)

Hastings

SUBJECT TO CONTRACT

SCHEDULE 25

[Form of Guarantee or Other Security]

SUBJECT TO CONTRACT

SIGNED BY)
for and on behalf of **ARQIVA LIMITED**) Director or Authorised
) Signatory

SIGNED BY)
for and on behalf of **ARQIVA LIMITED**) Director or Authorised
) Signatory

SIGNED BY)
for and on behalf of
[]) Director or Authorised
) Signatory