

Ofcom Consultation:

## Updating the amateur radio licensing framework

# Annex on Proposed Terms & Conditions: Comments by the Radio Society of Great Britain

September 2023

The Radio Society of Great Britain (RSGB, [www.rsgb.org](http://www.rsgb.org)) provides these detailed comments and proposals related to the Ofcom amateur licensing consultation, specifically on the draft licence terms on pages 68-93 that are referenced by Question-17 of the consultation.

Our response has been developed within the RSGB Spectrum Forum where we have been able to draw on a wide range of both internal RSGB experts, as well as a variety of external Special Interest Group representatives who are also members; and other feedback we have received.

### Summary

Briefly, we have identified issues with respect to:-

- Editorial errors
- Emergency usage / user-services definition
- Extra safeguards for repeaters
- Beacons - Updates and clarity with respect to Schedule-2 referencing
- Small changes to Beacon, Gateway and Repeater categories and definitions (especially to clarify the 25W erp limit)
- A new Category is proposed for 'Data Stations'; to accommodate systems that do not fit the three current draft categories – mainly data links/networks
- An opportunity to move nearly 300 SCC (Short Contest Calls) from an NoV mechanism to be more integrated (whilst fully preserving Ofcoms oversight)
- Frequency Schedule entries where we seek revisions: 1.8MHz, 5MHz, 2.4GHz, 5GHz
- A clearer Schedule-2 for Beacons

We hope the following is of assistance – and would be pleased to discuss further

*RSGB, September-2023*

## ANNEX: Draft Licence - RSGB Comments & Proposals

### Editorials:

**Related to Q16:** The new licence clauses are harder to uniquely reference due to major sub-sections (particularly within the long Condition-6) not numbered; and numbers being re-used at clause level. An easier to navigate numbering scheme or structure would be appreciated.

**Typos:** We have also noticed the following that require correction:-

- Condition-6 RSL table: Please correct the omission for Wales! W and C
- Condition-9, clause-4 title: Emergency Situations (not Dituations)
- Frequency Schedule: Full Table-C: - typo on 1850-2000kHz - a missing zero

### Condition-1 – Licence Term, Variation and Revocation

**Clause 2f** re 'Revalidation' only refers to Ofcom **potentially** revoking a licence if contact details are not confirmed after 5 years

We would appreciate a separate, clear but lighter clause to emphasise that Entitlement's to additional usage/callsigns/NoVs inc for repeaters etc **lapse automatically** after 5yrs (similar to their current NoV expiry) – as a safeguard/incentive to facilitate efficient management

### Condition-5 – Coordination

This is a new clause that we are content with but requires guidance to explain/expand.

The referenced Ofcom Civil-Military Sharing document in Condoc Para-6.24 gives one example related to Schedule-2; and the Charing Cross radius in 431-432 MHz.

However there are other areas where coordination guidance needs to be more easily accessible; such as for Primary User frequency clearance and the conditions associated with 2.3 & 3.4GHz which date back to the April-2014 PSSR Statement.

### Condition-6 Radio Equipment Use

**Clause-7** – We support concerns that voluntary User Services and other government departments are no longer included due to change in the definition in the Condition-10 Interpretation section.

We believe it would be better to refer to the 'User Service' definition as used in the current licence, rather than just the proposed narrower 'Responder' definition:

"User Service" means the British Red Cross, St John Ambulance, the St Andrew's Ambulance Association, the Royal Voluntary Service, the Salvation Army, any Government Department, any 'Category 1' responder, and any Category 2 responder as defined in the Civil Contingencies Act 2004;

## Condition-6 General usage (ex NoV) Systems - Beacons, Repeaters, Gateways etc

We recognise the intent is to integrate the vast majority of systems that currently require NoVs.

Firstly we suggest the licence format would be clearer if the various subsections for those associated with such general use systems (eg Beacons, Gateways, Repeaters etc), are easier to reference, or in their own section.

More substantially:-

- Definition refinements are proposed for repeaters
- Greater clarity is proposed for Beacons and Schedule-2
- Some extra safeguards are sought
- **A new category of 'Data Systems' is needed and proposed**

### Definitions from Condition-10 Interpretation

Currently there are three categories, based on:-

- “Gateway” means radio equipment that transmits and receives on a **single** frequency.
- “Repeater” means Radio Equipment that is capable of **simultaneous** reception and re-transmission on **different** frequencies.
- “Radio Beacon” means **automatic** transmitting-only Radio Equipment which is operated by the Licensee for the purposes of the purpose of determining radio propagation characteristics; position reporting; direction finding or other telemetry.

Whilst the above does cover the majority of the ~1200 NoVs in scope<sup>1</sup>, it does leave a significant number where we need to more flexibly cover other permutations such as store/forward and Time-duplexed (TDD) repeaters, and a wide variety of data/feeder links, RF networks/mesh transceiver

We believe this is best addressed by both a small modification of the Repeater definition; and a new fourth category and definition to flexibly cover a variety of current/emerging data systems that don't fit well with the three current categories.

### Repeater Definition Update

We propose the following changes to the repeater definition accommodate non-simultaneous (eg store/forward delayed or 'parrot') usage; and potentially single frequency TDD repeaters (which DMR is capable of)

- z) “Repeater” means Radio Equipment that is capable of **simultaneous** reception and re-transmission, **typically** on different frequencies.

### Beacons/Repeaters

Ofcom should clarify, perhaps in guidance, Clause 12 & 14 re **Full (Temporary Reciprocal)** – as that specific licence class is perceived to be riskier and harder to contact/manage – and is only valid for six months or so.

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<sup>1</sup> RSGB-ETCC Stats have ~1250 callsigns/NoVs in scope, including ~220 Data systems (APRS-Tx/Rx, Packet and other links) which do not fit the current Repeater, Gateway & Beacon categories

## Radio Beacons operation (and Schedule-2 reference)

**11a** (which includes the <5Werp category) needs to just refer to **restrictions** in Schedule-2, to protect designated locations, as per old licence 10(1); - not at only bands/locations. Furthermore we request Ofcom consider a waiver from those restrictions if beacons are <5W erp

The wording (and/or guidance) should be clear this is only for automatic general reception (so it does not accidentally restrict normal personal/attended usage) - and see later for a clarified Schedule-2.

**12 Beacon Power Limit:** (for the 5-25W erp range) Add into **12** (where this is a Full licence etc):

**Radio Beacon Stations may operate up to a maximum power level of 25 W erp.**

Comments:

- Having the power limit in the main condition is clearer, instead of it lurking in Schedule-2
- We note that 11b covers the 2hr closedown that was referred to in Schedule-2
- For the modest number of beacons >25W erp == they would stay within the NoV regime

## Repeaters

Safeguards on frequencies and maximum power are requested to reflect current arrangements:

We propose adding:

14 f) must use frequencies above 28MHz

15 f) ensures that the Repeater transmits at powers no greater than 25 Watts ERP

There is also another condition which we wish to be considered to be included, which at present is managed by separate NoV in order to prevent problems:-

- Anyone wishing to establish an on-air RF gateway link to a Repeater must have the permission of the Repeater keeper

With respect to Primary User Coordination (related to Condition-5), we would welcome the existence of pre-cleared gateway and repeater channels on secondary bands (especially in 430-440 MHz) and would encourage dialogue with the primary user/s with a view to achieving this.

## Explanatory comments

- The above more clearly defines the <5W and 5-25W erp beacon and repeater power categories, noting that RSGB-ETCC do not authorise any repeaters above 25W erp to assist with both spectrum efficiency and as the majority are in secondary allocations.
- The Repeater definition update accommodates, more specialist cases (those repeater which may store and forward messages, and some limited use of TDD single frequency systems)

- A modest number of Beacons above 25W erp would remain fully coordinated under NoVs
- RSGB welcomes the opportunities afforded by the new <5W repeaters category and will consider appropriate band planning and guidance for them
- Note: Currently RAYNET repeaters are outside of the current NoV regime (as they are not fully general usage, or in ETCC data). Some of these may need to be better registered/coordinated - but our view is that that this could be catered for without further licence modifications

## Data Systems

To cover the wide variety of other (largely M2M) data systems that ETCC currently coordinate, we propose one new category, but with a flexible definition that Guidance can expand upon.

Such a new category could then cover APRS-Tx/Rx, UIView/Packet, data/trunk links, RF mesh networks; and emerging technologies such as adaptation of LoRa or whatever...

**We therefore suggest adding the following:-**

### Radio data station operation

**NN.** The Radio Equipment may be used as a Data Station and may be operated (but not controlled) by other radio amateurs without supervision, providing that the Licensee:

- a) Ensures that the **Data Station** transmits at powers no greater than 5 Watts ERP;
- b) is able to demonstrate that reasonable steps have been taken to minimise the risk of the **Data Station** causing undue interference to other authorised uses of radio and provide evidence of this if requested by Ofcom;
- c) takes all reasonable steps to ensure that the **Data Station** is only used by an Amateur;
- d) remains responsible for the operation of the **Data Station** and compliance with the terms, conditions and limitations of the Licence; and
- e) is able to close down the **Data Station** within two hours of being required to do so by Ofcom.

**NN.** Where this is a **Intermediate, Full, Full (Club) or Full (Temporary Reciprocal)** Licence, the Radio Equipment may be used as a **Data Station** at powers greater than 5 Watts ERP, providing that the Licensee:

- a) ensures that the **Data Station** is identified using the call sign allocated and published by the Radio Society of Great Britain or any other body stipulated by Ofcom for that purpose; and
- b) is able to demonstrate that reasonable steps have been taken to minimise the risk of the **Data Station** causing undue interference to other authorised uses of radio and provide evidence of this if requested by Ofcom.
- c) takes all reasonable steps to ensure that the **Data Station** is only used by an Amateur;
- d) remains responsible for the operation of the **Data Station** and compliance with the terms, conditions and limitations of the Licence; and
- e) is able to close down the **Data Station** within two hours of being required to do so by Ofcom,
- f) ensures that the **Data Station** transmits at powers no greater than 25W erp.

**Data Station Definition:** Our proposed simple definition for the Interpretation section is:

**“Data Station” means radio equipment that transmits or receives data**

**Data Station notes:**

- The ‘Data Station’ definition has been kept simple and thus should be flexible and fairly future proof, given some accompanying guidance – and would thus cover the ~200 under NoV
- For example – ‘Data’ is a broad term and thus can potentially include analogue or digital data
- Note that 5-25W range would now be open to Intermediates (currently limited to Fulls)

**Callsigns:**

currently GB3, GB7, MB6 and MB7 are used for the various NoVs. We would welcome a discussion with Ofcom regarding additional MB series (or equivalent) to help more clearly identify the different classes of systems

**Other NoVs - SCCs**

SCCs (Short Contest Calls) – Nearly 300 are in issue out of 520 capacity, managed by the RSGB Contest Support Committee in liaison with Ofcom Policy specialists. As per below the NoV needs a modest change, or we could use this opportunity to more fully incorporated into the licence:

**If the NoV approach is retained** – updates are requested as follows:-

- There is one clarification to the meaning of a contest ‘section’ that has been discussed and agreed with Ofcom (as a result of someone asking a question that hadn’t come up previously that had to be forwarded to Ofcom for a decision). This change has been previously drafted and approved, but not yet implemented
- Another change we would really like to see is to delete the phrase “Ofcom will also consider results from other contests, not listed in Table 1.....” as this will make the decision process a straightforward yes/no decision.

**Alternatively - we could incorporate into the licence, based on adding a new clause:-**

*Where this is a Full or Full (Club) Licence, the Radio Equipment may be identified using a “Special Contest Call Sign” (SCC) provided that:*

- *The licensee satisfies the **Ofcom-agreed** qualification criteria for such a call sign to be issued and used*
- *The Special Contest Call Sign (SCC) may only be used to identify the station when the station is participating in an Amateur Radio Contest of no more than 48 hours in duration and run by a bona fide contest organiser,*
- *ensures that the Radio Equipment is identified using the SCC allocated and published by the Radio Society of Great Britain or any other body stipulated by Ofcom for that purpose;*
- *and noting that the SCC may be enhanced using one of the RSLs specified by this licence*

**Notes:**

Incorporation does not change in any way Ofcom's ability to manage or set criteria, but could usefully contribute to a reduction in overall 'NoV' numbers and ease burden on policy experts.

A clear maximum duration (eg 48hrs) is important as it prevents the SCC from being used all of the time as your primary callsign by claiming you are competing in a year-long marathon radio event.

**Condition-6 Identification**

As previously noted the RSLs for Wales (W & C ) are missing in the table

There would need to be a change to Clause-19 if the personal RSLs remain mandated

Clause-23 regarding Suffixes may need modification to stress that any suffix should not offend, or confuse clear identification (and perhaps be limited in length)

**Condition-9 EMF**

There remains a concern that some of the language re 'shall' is actually referring to ICNIRP guidelines (which technically are not hard limits)

Clause 4: 'Emergency Situations' typo as previous indicated (not Dituations)

**Condition 10 Interpretation**

Based on comments above the definitions may need to be amended for Users Services, Repeaters and the a new 'Data Station' usage category



## Main Frequency Schedule-1 comments:

**Full Table-C:** p87 - typo on 1850-2000kHz (Missing zero)

– or else amateurs accidentally get lots of extra long/medium wave spectrum ☺

### 1.8MHz Band

- 1810-1850kHz amateurs are Primary in the ITU Radio Regs (thus up to 1kW)
- 1850-2000kHz Power limit – only 32W (vs 1kW in the Primary 1810-1850)

The 32W power limit in the Radio Regs is very restrictive (esp as the original PU systems are obsolete and no longer present), nor is it practical/aligned from an equipment view point. Contest use of 1.8MHz regularly spills over into 1850+

Other secondary bands are 40, 100, 160 or 400W power limits, **so we wish to propose 100W** secondary (inc the existing non-interference condition) – would align better (inc with equipment and new Intermediate power level and more recent practice on 5MHz

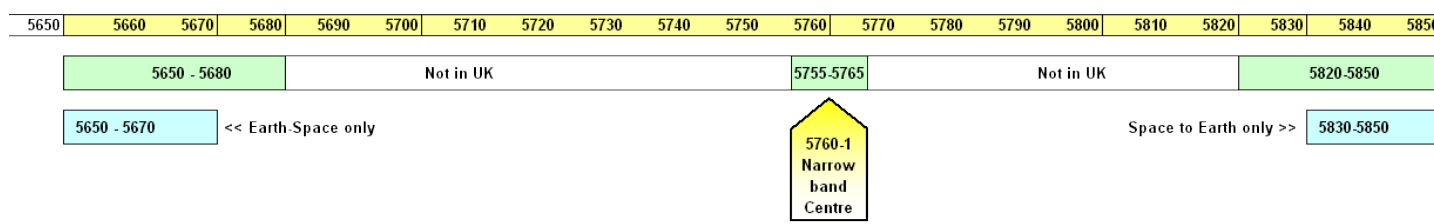
**5MHz** – UK Amateurs are deeply disappointed that years after an ITU allocation was agreed, that a couple of small sections of the 5351.5-5366.5kHz ITU secondary allocation remain inaccessible in the UK. Given that the band is widely allocated and used by our neighbouring amateurs and beyond, the refusal of the Primary User remains less logical than ever.

We take this opportunity to state that we are prepared to ‘trade’ and offer back over twice the amount of spectrum than is required for harmonising the gaps (aligned with our existing licence 5MHz conditions). If refused, we request that the PU publicly state their reasons for refusing such a rare/generous offer and not recognising the ITU allocation.

**2.4 & 5GHz for Foundation** – As per our reply to Q14, we are persuaded that slightly more power is needed for the 2.4GHz uplink to the QO-100 satellite. In our case we propose amending the 1W level into an antenna to 2W (whilst noting that AMSAT-UK and UK-Microwave Group also have views on this)

### 5GHz –General

The full ITU 5GHz band amateur secondary allocation is 5650-5850 MHz. This was fully available to UK amateurs until ~1981 – but you can see below that we are now quite restricted in the UK -







Other European countries do not have such a restriction for their amateurs. In France, Germany, Austria etc this has enabled longer fixed p-p amateur links such as 'Hamnet' amateur network, as well as shorter access links, mesh nets etc using wider bandwidth channels. Much of this is based on adapting standard wireless chipsets and equipment

A practical issue is now arising from these quite narrow UK amateur allocations in that their centre frequency/bandwidths no longer align with commercial chipsets which now use 40-160MHz wide channels (that ironically support more polite channel sharing protocols) – making it increasingly hard source/adapt suitable kit for use in 'amateur' mode

**We propose that low power say 1-2W** (similar to the new Foundation level ?) to fill in the gaps would cover this, without causing concern to other users

Considering other users, the upper gap 5765-5820 MHz may be easier to accommodate the change, if the lower gap is considered more of an issue

## Schedule-2

### Additional restrictions which apply to the Unattended Operation of Beacons

#### Comments/Considerations

- Can we be clearer that these only apply to unattended/automatic Beacon operation ?
- We only need to list locations/frequencies needing protection – thus we can have a simpler table without the licence class columns which are well defined in the main conditions
- We propose that the Beacon 25W erp power limit and closedown could move to the main condition clauses as it is similar to the main repeaters and the unattended clause
- Separately we invite Ofcom to consider if these restrictions applies to the lower risk <5W erp power levels, or just the 5-25W erp range
- A few rows/clauses of the original can be omitted as they relate to specific amateur usage only and not the locations – which is far better covered in the main licence. This also avoids accidentally restricting specific usage modes such as low power usage for WSPR, APRS, telemetry, milliwatt DF competition pingers etc

Consequently we propose a simpler and clearer schedule as follows:-

Unattended operation of Radio Beacon stations is subject to the following geographic restrictions:-

Frequency	Location
28.0 – 29.7 MHz	Not within 50 km of NGR SK 985640
144 - 146 MHz	Not within 50 km of NGR TA 012869*
1298 – 1299 MHz	Not in N. Ireland** and not within 50 km of NGR SS 206127 and NGR SE 202577.
2310.0 MHz - 2310.4125 MHz	Not within 50 km of NGR SS 206127 and NGR SE 202577.
2392 MHz – 2450 MHz	Not within 50 km of NGR SS 206127 and NGR SE 202577.
5670 MHz – 5680 MHz	Not within 50 km of NGR SS 206127 and NGR SE 202577.
10.0 – 10.125 GHz	Not within 50 km of NGR SO 916223, SS 206127, NGR SK 985640 and NGR SE 202577.
24.0 – 24.050 GHz	Not within 50 km of NGR SK 985640 and NGR SE 202577.
47.0 – 47.2 GHz	Not within 50 km of NGR SK 985640 and NGR SE 202577.
Frequencies above 75.5 GHz that are listed in Schedule-1	Not within 50 km of NGR SK 985640 and NGR SE 202577.

\* 144-146 MHz: As this is Amateur Primary we question this as over-protective versus any other amateur usage/power in the band – especially as it would also inhibit popular direction finding beacon telemetry on 144.8 MHz

\*\* Please can Ofcom review if the 1298-1299MHz restriction still applies in Northern Ireland ? Our understanding is that the equipment has been decommissioned and it could be now be unfair and conflict with the draft WRC23 AI-9.1b recommendation which may endorse greater amateur usage in this frequency segment, versus other parts of the amateur allocation

ALSO: Another benefit of our proposal is that it is better aligned with the simpler list in the August-2022 Ofcom Civil-Military sharing document.

We also believe our approach also enables the elimination of the following text as it is being covered elsewhere or unnecessary:-

### ~~Notes to additional restrictions which apply to the unattended operation of beacons~~

~~(1) May only be used for the purpose of direction finding competitions. The Beacon must transmit the Callsign of the Licensee in accordance with Clause 13 of this Licence and it must be possible to switch the Beacon off within two hours of a demand to close down by a person authorised by Ofcom.~~

~~(2) It is permissible to transmit positional information using automatic position reporting software on a spot frequency of 144.800 MHz at any one temporary location not within 50 km of NGR TA 012869. The maximum permitted period of unattended operation is 30 minutes.~~

### ~~Notes to schedule 2~~

~~(a) The Unattended Operation of Beacons is only permitted within the frequency bands:~~

- ~~i. Which are listed in the first column of Schedule 2; or~~
- ~~ii. which are above 75500 MHz and are listed in the first column of Schedule 1 providing that such operation is not within 50 km of NGR SK 985640 and NGR SE 202577. (covered by adding that extra >75.5GHz line in the table)~~

**(b) Beacons may operate with a maximum power level of 25 W e.r.p. pep.**

***(and is even clearer if this power limit clause is moved to main licence clause for beacons)***

Notes:

- The other requirements regarding identification and 2-hour closure are already covered by other licence terms – thus the ability to significantly simplify the Schedule-2 notes
- Reference: “Frequency sharing arrangements between civil and military services”, UK Frequency Allocation Table, Ofcom 19-August-2022