



Commission for  
**Communications Regulation**

# **Response to the 400 MHz Band Spectrum Award Draft Information Memorandum and Draft Regulations**

## **Submissions to Document 19/56**

**Reference:** ComReg 19/81s

**Date:** 30/08/2019

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# 1 Electricity Supply Board Networks Limited



Energy for  
generations

Networks Telecoms, ESB Networks

# **ESB Networks' response to ComReg's Draft Information Memorandum and Draft Regulations regarding the Proposed 400 MHz Band Spectrum Award (ComReg Document 19/56)**

17/07/2019



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## 1. INTRODUCTION

ESB Networks (ESBN) welcomes the opportunity to respond to the Commission for Communications Regulation (ComReg) Draft Information Memorandum and Draft Regulations regarding the Proposed 400 MHz Band Spectrum Award <sup>1</sup>.

ESBN is strongly supportive of ComReg's proposals, particularly with respect to reserving 2 x 3 MHz of spectrum in the 400 MHz band for Smart Grid. ESBN agrees with ComReg that Smart Grid can derive significant benefits in Ireland and that there are no alternative suitable solutions or spectrum bands available. Provision of access to this spectrum in the long term would provide a stable platform for high levels of long term investment in Smart Grid. ESBN commends ComReg on this Decision to ensure that radio spectrum is available for the development of Smart Grid. ComReg has a willingness to listen and understand the issues that face industry and provide innovative ways of addressing these matters.

ESBN recognises that this Information Memoranda (IM) is distinct and unique to this spectrum award process. ESBN has accordingly provided commentary associated with the appropriateness and applicability of measures as relevant to this award process.

ESBN recognises that this Draft IM is not a final Decision (Decision document published as ComReg Document 19/69 on 28<sup>th</sup> June 2019) and the final IM will specifically outline any material changes as a result of responses to this draft and any changes in Final Decision (ESBN notes that ComReg has not presented any material changes in its Final Decision document). ESBN's commentary below is without prejudice to its response to ComReg's Draft Decision document (ComReg Document 19/23). ESBN's material issues as represented in its response to ComReg Document 19/23 were as follows and arguments still valid;

- ESBN has given robust arguments (as has the majority of all respondents to ComReg throughout the consultation process) that the licence duration for this spectrum release needs to be a minimum of 20 years. ComReg and its consultants have not provided adequate rationale why the licence duration isn't commensurate with the specifics of Smart Grid operating in this spectrum band. A longer licence is more consistent with ComReg achieving its ambition of promoting investment in provision of networks and spectrum efficiency.
- ESBN believes that the optimum outcome for spectrum in 410 – 417 MHz and 420 – 427 MHz would involve the joint release of this spectrum in one award process.

## 2. COMMENTARY

ESBN has responded with comments on the sections of Draft IM document which ComReg did not provide any questions on. These comments are outlined below and refer to specific paragraphs and/or sections.

### *Access to Smart Grid from other Network Utility Operators*

ESBN notes ComReg's response to ESBN's concerns regarding Network Utility Operator's access to Smart Grid services (as rolled out by a different Network Utility Operator) in Section 2.6 of its Final Decision Document (ComReg Document 19/69). As ESBN outlined previously,

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<sup>1</sup> <https://www.comreg.ie/publication-download/proposed-400-mhz-band-spectrum-award-draft-information-memorandum-and-draft-regulations>

it is not opposed to the principle of fair and equitable access to Smart Grid services from other Network Utility Operators and indeed agrees with this principle. ESN's concern is with regards to how this works in practice, and sought assurances that any ex-post access obligations were not onerous or detrimental to any Network Utility Operator who rolled out a Smart Grid network. ESN understands and accepts that ComReg cannot apply ex-ante obligations without detail on users, services etc. ESN requests that ex-post access obligations are fair and transparent.

Accordingly, ESN suggests that any ex-post competition analysis on access to a Smart Grid network should take into account the lack of information regarding other Network Utility Operator's requirements, and how any requests should not impact negatively on the licensee's deployment plans, result in the licensee being financially disadvantaged due to cost of providing services to another Network Utility Operator or cause service access issues for the licensee themselves. ESN understands that ComReg cannot proactively address these issues specifically.

#### Licence duration

ComReg proposing a 15 year licence again in this document. As ESN outlined above, it believes a licence duration of minimum 20 years is more appropriate. All other respondents to ComReg's 400 MHz spectrum award consultation process agree that licence needs to be a minimum of 20 years.

#### Fees:

#### Pricing derived from auction:

ESN has outlined previously that it believes Opportunity cost based pricing achieves ComReg's objective in spectrum awards, whilst also ensuring that a successful Bidder does not overpay for the spectrum won. ESN encourages ComReg to consider opportunity cost based pricing (potentially using method(s) previously proposed by ESN) for the proposed SCA.

#### 'Calls' in Column 2, row 2 of Table 1

ComReg state in this table that "*ComReg will accept calls for confirmation of Deposits*". ESN recommends that this text have "telephone" inserted before the word "calls" as a means of avoiding confusion (i.e. someone could read this in relation to a Deposit call, and not a telephone call arranging Deposit).

#### Appropriate Discount Rate

ESN previously set out its position that ComReg should apply a more suitable discount rate for any Smart Grid network operator. ComReg proposed a discount rate of 8.63%, whereas CRU has determined that a Weighted Average Cost of Capital of 4.95% is suitable for investments in Network Infrastructure. ESN notes that ComReg and DotEcon accept that ideally operator specific discount rates would be used. ESN accepts that ComReg needs to set an appropriate discount rate which covers all potential users of the spectrum being awarded, and it is not possible to know suitable discount rate for each potential user in advance.

ESN notes that ComReg's current proposal (as per ComReg Document 19/54) is to set the WACC for Mobile Telecommunications to 6.53%. ComReg used the previous Mobile

Telecommunications WACC to set the discount rate for this spectrum award. This WACC will reduce imminently from 8.63% to 6.53% should ComReg adopt its existing proposal. ESNB contends that ComReg should adopt the new Mobile Telecommunications WACC as the Discount Rate for this award process should that Decision be finalised prior to the award of 400 MHz spectrum. With the newly proposed WACC applied as the Discount Rate, ESNB calculates that an annual SUF of €35,000 (subject to annual CPI) would equate to the SUF total of €350,000 over the term of the licence. ESNB encourages ComReg to use the most recent agreed WACC for this award if the Decision is finalised in advance of this award.

ESNB agrees with the combined (SAF + SUFs) cost as proposed by ComReg of €590,000 for Part A spectrum (and prorated for Part B).

#### CPI of Fees:

ESNB agrees with the principle of applying CPI to SUFs. ESNB currently pay spectrum fees with CPI applied.

#### Interest to be charged for late fees:

ESNB believes that ComReg should be proportionate and fair in applicability of late payment charge as suggested in paragraph 2.46. ESNB believes that ComReg should evaluate the reasoning for late payment before applying such interest charges. For example, a licensee may submit payment on time but for other reasons (e.g. banking issues) the fees may arrive late in ComReg's account. ComReg should liaise with the licensee to ensure it made all reasonable attempts to pay fees on time and should not be penalised if late payment arrives with ComReg due to issues external to the licensee.

#### Licence suspension:

ComReg in paragraph 2.51 states that "A Licence may be suspended or withdrawn in accordance with the Authorisation Regulations". ESNB expects that ComReg is fair and proportionate in exercising this discretion and it should only be applied where a licensee has made serious breaches of conditions and is unlikely to remedy them in a reasonable time.

#### Spectrum release practicalities

ESNB agrees in general with ComReg' procedures regarding this proposed spectrum release and commends ComReg on its diligent efforts in this regard. ESNB has provided suggestions below in relation to matters it considers can be optimised. Beyond commentary below, ESNB agrees with ComReg's proposed application procedures as is.

ESNB considers the process and timelines as outlined in Section 3.2 and Table 1 as being fair, reasonable and appropriate.

#### Questions during release process:

ComReg has proposed that questions can be submitted relating to the Award Process for only two weeks after Final Information Memorandum is published. ESNB believes that ComReg should facilitate questions throughout the Award Process, publishing answers to all Questions submitted before application deadline online anonymously. Past this date, ESNB believes that ComReg should facilitate Questions past the application deadline, responding to all applicants. It would be unfair for an Interested Party to be unable to get a question answered



which for whatever reason may arrive sometime subsequent to 2 weeks past the final IM publication.

Additionally, ComReg has stated in paragraph 3.38 that some Questions may not be considered valid and therefore not responded to with an answer. ESNB believes it is proportionate and fair that a querist is informed of the invalidity of their Question in advance of the deadline for submission of Questions, therefore allowing resubmission of a valid Question.

#### Bidder Training:

ComReg has committed to providing Bidder training to Qualified Applicants and ESNB believes this is necessary. ComReg outline how the award process (if an auction is required) will utilise an EAS. Given that Qualified Applicants may have had little or no exposure to utilising such an EAS, ESNB believes that ComReg should facilitate a mock auction for each Qualified Applicant (if requested). Such a mock auction would allow a Qualified Applicant ensure it can utilise the EAS, with the mock auction assisting with the practicalities of an auction rather than the mechanics of the format. Such mock auctions could be set up and very brief in nature, but would be invaluable to Qualified Applicants.

#### Joint Bidding:

ComReg are permitting the potential for Joint Bidding between entities to be entertained. ComReg may provide some clarity on which entity would be punished or sanctioned in the event of severe breaches of the rules.

#### Timing of payment of Deposit:

Interested parties in this award process will have a substantial amount of work to carry out in between publication of Final IM and submission of application, including potential internal corporate governance matters. ESNB agrees that a 6 week time limit from publication of final IM to submit applications is reasonable. Applicants could be quite occupied with the practicalities of submitting an Application during this 6 week period (e.g. gathering information required by ComReg, approving power of attorney on individuals etc.). With this in mind, ESNB believes that ComReg could alleviate some of the logistical issues facing Applicants by allowing a two week period following the deadline for application for submission of Deposits (i.e. Deposits required X+8 weeks after publication of final IM). On a practical level this would be of significant benefit to Applicants. This would in no way affect ComReg's timelines, and Applicants can be bound by their Applications so the process and rules of the award can proceed as otherwise proposed.

#### Deposit Call

As per paragraph 3.69 of ComReg's Draft IM;

*"If a Deposit Call is issued, ComReg will specify a time period of not less than three consecutive Working Days during which the notified Bidder's additional Deposit funds must be received by ComReg as cleared funds in its bank account (as specified in Annex 3)".*

When issuing this Deposit Call, ComReg may require up to 100% of maximum bid to be submitted. ESNB believes it is more reasonable for ComReg to allow 5 working days for cleared funds to arrive in ComReg's bank account. Only permitting 3 working days gives rise to a risk that Bidders would not be able to meet this deadline and perhaps be eliminated from the award process due to this technicality. At the very least, ComReg should allow more time

for larger Deposit Calls to be met, i.e. any Deposit Call for 75% or more of maximum bid would give the Bidder up to 5 working days to have cleared funds in ComReg's account. Given that Round prices can increase by up to 20% and the potential number of round per day, it is feasible that within a day of the auction beginning there is a requirement for a Deposit Call. Administratively it may be difficult for some Bidders to have cleared funds in ComReg's account within 3 days, especially when the requirement could arise quite quick (i.e. if Round prices increasing slower, a Bidder would have knowledge of the potential of a Deposit Call sooner, hence facilitating sooner preparations for submission of Deposit).

#### Submission of details by Network Utility Operator

ComReg requires that "*Network Utility Operators must submit four identical copies of its utility network details in a table format which clearly identifies the number, and type, of elements in the network, for example in the electricity sector this would include, but is not limited to, details of the numbers of transformers, substations, control points, sources of production, and points of transmission and distribution*". ESNB requests that ComReg provide a template they would require for presentation of information.

#### Extension rights

ESBN agrees with ComReg's proposal to allow each Bidder two Extensions in the event that they do not submit a Bid within the time limit for a given Round. ESNB has three questions regarding the usage of Extension rights;

1. ESNB believes that a Bidder may only utilise one Extension per round. ComReg has not specifically addressed this and ESNB requests clarity on same (i.e. the potential for a Bidder to use two Extensions in one Round if after both the normal round and Extension period a bid isn't submitted, another Extension invoked).
2. ESNB assumes that a Zero Bid will effectively be submitted for a given Bidder who does not submit a valid Bid by the end of a given Extension. ESNB requests clarity on this matter.
3. In the event that more than one Bidder does not submit a valid Bid in the time allocated for a given round, will each Bidder who invokes the Extension have one of their Extension rights removed? ESNB assumes this is the case.

#### Term radio communications apparatus

In paragraph 2.10 of the Draft IM, ComReg use the term "*radio communications apparatus*". This term is not defined by ComReg, accordingly ESNB suggests that this term be rephrased to be simply "*apparatus*" to be consistent with terminology throughout rest of document

#### Fax

In the Authorised Agent's section of the Application Form, ComReg requests fax details of Authorised Agent(s). ESNB would like to understand if it is a requirement of the process that Applicants require access to fax machines for participation in the award. ESNB does not believe this should be a requirement.

#### Application form, Annex 3, Part 3

ESB notes what it considers two errors in this section;

1. Page 109, heading “Part B – Bid Form (40 Lots available)”: ESNB believes this should be 10 Lots and not 40, as this Network Utility Operator is bidding for 10 Lots in situation it didn’t win Part A spectrum.
2. Page 110, table reference “Table 6: Bid Form for Part B Award (40 Lots available)”: ESNB believes this should be 10 Lots as it is in the situation that Part A has been awarded to another entity.

### Commencement date of licence

In paragraph 2.12 of the Draft IM, ComReg states that “*The Licences will be of fifteen years duration. All Licences will commence concurrently on such “Commencement Date”*”. This proposal is reasonable at face value. ESNB’s query in this regard is what would ComReg do if a winning Bidder incurred delays in submitting SUFs and/or ComReg identified an issue with a Bidder or other scenarios. Would ComReg delay the issuing of all licences until it has addressed potential issues with one or more successful Bidders? There are benefits to ComReg releasing licences with concurrent start and end dates. However, ESNB believes that it would be unreasonable for a successful Bidder to suffer delays in having its licence issued as a result of a technicality or issue with one or other successful Bidders submission of funds or any other matter with another successful Bidder. ESNB requests clarity in what ComReg would do if one or more successful Bidder was causing delays to the start date of issuing licences for others.

### “Department of Communications, Climate Action and Environment”

ComReg reference the Department numerous times in document (including draft regulations and Licence). ESNB notes that ComReg has not included the comma in the term and should do so.

### Fees in Licence suspended or withdrawn

In Annex 2, Clause 8(6), ComReg states that “*If a 400 MHz Band Licence is suspended or withdrawn, the Licensee shall not be entitled to be repaid any part of the Spectrum Access Fee or Spectrum Usage Fee paid by the Licensee under this Regulation, but shall still be liable to pay any sums, including interest, that are outstanding.*” ESNB understands that if a Licence is suspended or withdrawn (or indeed handed back), future SUFs will not apply. If ESNB’s understanding is correct, this Clause should be adapted to explicitly state that future SUFs are not due for payment.

### Spectrum returned to ComReg

ComReg has previously established that it would not make comments on what it would do in the future with unsold Lots, which is a reasonable approach to reduce perverse incentives of Interested Parties in the award process. ComReg has established that any unsold Lots will be located in the upper section of the Part B spectrum. ESNB request clarity from ComReg about what it would do with spectrum handed back by a Licensee over the term of the licence, or in the event that a Winning Bidder subsequently had its spectrum revoked.

### CD-ROM/DVD/USB

ComReg requires that certain information be made available to ComReg in CD-ROM format. ESBN requests that ComReg also permit submissions in DVD-ROM and other digital formats also (e.g. USB).

### Collusion

ESBN has regular (even daily) discussions with EirGrid on a myriad of matters given the TSO/DSO relationship. ESBN has an operating relationship GNI. Should ESBN make an application to participate in this process, it will adhere to any rules as set out. ESBN wishes to advise ComReg that it will not be possible to ESBN to cease operational communication with GNI and EirGrid throughout the award process. However, ESBN assures ComReg that should it make an application, there would be no communications between ESBN and EirGrid and/or GNI in relation to this specific award process for the period as set out by ComReg.

### Protection of Radio Astronomy

Schedule 1, Part 4 and Clause 5 states that “*A Licensee must take all practicable steps to avoid Harmful Interference to the radio astronomy service and any other adjacent licensees*“. ComReg will mediate if there is an issue. ESBN encourages ComReg to be fair and reasonable to any terrestrial licensee in this regard. A licensee may take a range of potentially costly steps in order to not cause interference to Radio Astronomy, yet the issue may be with the quality of functionality of the Radio Astronomy equipment (e.g. its selectivity, blocking capability etc.). In this regard, ESBN believes that ComReg should make it a requirement that both a 400 MHz licensee and a user of spectrum for Radio Astronomy both take preventative measures to ensure there is no interference between services, and not to put the responsibility solely a 400 MHz licensee.

Additionally, there is potential for a person or operator to undermine the services being provided for in the 400 MHz band by randomly deploying Radio Astronomy services in areas with the intention of limiting the capabilities of licensees in the 400 MHz band from deploying successful networks. ESBN encourages ComReg to ensure that such perverse matters cannot arise.

### Memorandum of Understanding (MoU)

ESBN notes that in Annex 2 (Draft Regulations), ComReg states that “*Readers should note that these draft Regulations are subject to a new or amended MoU with Ofcom on cross-border coordination for the 400 MHz band*“. ESBN has previously outlined to ComReg the immediate requirement for a new MoU with the UK for this spectrum band to be drafted and consulted upon. ESBN believes that it is important that a draft MoU is available at least by the deadline for Applications date so that Interested Parties are fully aware of technical restrictions it will face in border areas and in deployments in the east coast of Ireland. The 400 MHz spectrum band can propagate quite far, so visibility of a new MoU is important when conducting network planning and business case analysis.

### **3. SUMMARY**

Radio spectrum is a vital natural resource which must be managed efficiently to facilitate economic, social, technological and environmental advances within Ireland. ESB Networks welcomes the opportunity to respond to this draft IM.

ESBN is broadly supportive of ComReg's proposals in this Draft IM and congratulates ComReg on presenting well researched reasoning and arguments regarding the benefits of Smart Grid, and for making dedicated spectrum available for this use case.

**ENDS**

## 2 European Utilities Telecom Council



**Proposed 400 MHz Band Spectrum Award  
Draft Information Memorandum and Draft Regulations  
Reference: ComReg 19/56 Release of the 410 – 414/420 – 424 MHz sub-band**

EUTC

The European Utilities Telecom Council (EUTC) is a non-profit organization delivering education, collaboration, best practices and thought leadership in telecommunication technology to utilities, other critical infrastructure providers and regulators, ensuring efficient, secure, sustainable and affordable smart infrastructure solutions.

The membership is comprised of major gas and electricity transmission and distribution companies from across Europe plus vendor partners representing telecommunications suppliers focused on utility telecoms provision.

ESB Networks is one of EUTC's members and will therefore respond directly to the questions posed by the Irish Commission for Communications Regulation (ComReg).

Background

EUTC welcomes ComReg's proposal to release 2 x 4 MHz of spectrum in the 410-430 MHz band to provide smart grid services within Ireland.

Since our comments on previous ComReg consultations on use of the 400 MHz band, the most notable international development has been the publication of the International Panel on Climate Change (IPCC) Special Report on Global Warming. Published on 8 October 2018. The report stated that limiting global warming to 1.5°C would require rapid, far reaching and unprecedented changes in all aspects of society. The IPCC said that "With clear benefits to people and natural ecosystems, limiting global warming to 1.5°C compared to 2°C could go hand in hand with ensuring a more sustainable and equitable society"<sup>1</sup>. Smarter electricity grids will play an indispensable part in attaining that goal, within which advanced telecommunications will be an essential ingredient.



We also note that ETSI System Reference Document SRDoc TR 103 492 (Critical Infrastructure Utility Operations Requirements) has also now been approved for publication.

Against this continuing background of international progress towards more intelligent networks and lower carbon societies, ComReg's consultations on release of spectrum in the 400 MHz sub-bands are progressive and far-sighted.

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<sup>1</sup> [https://www.ipcc.ch/pdf/session48/pr\\_181008\\_P48\\_spm\\_en.pdf](https://www.ipcc.ch/pdf/session48/pr_181008_P48_spm_en.pdf)




## General comments

With the publication of the 'Response to Consultation and Decision on the 400 MHz Band Spectrum Award: Consultation and Decision: Reference: ComReg 19/69' on 28 June 2019, there is little merit in repeating previous comments. Overall, ComReg is to be congratulated on their far-sighted decision to reserve spectrum in the 410-430 MHz band, recently incorporated into Frequency Range 1 for 5G, for utilities and public safety.

## Specific comments

Our comments are restricted to those areas of greatest importance and relevance to utilities generally, rather than the specifics of the Irish environment which are best left to more local responders.

### Developments within the European Conference of Postal and Telecommunication Administrations

- With the adoption of ECC Decision (19)02, ComReg's change of approach to this spectrum release at a relatively late stage means that utilities will not have the flexibility to enlarge their spectrum block to encompass 2 x 5 MHz should analysis show this to be the optimum structure for a combined utility telecom network in the process. However, utilities do not rule out the concept of innovative sharing models whereby in the future, public safety and utilities might wish to explore opportunities for sharing spectrum, networks and associated services.
- 
- It is commendable that utilities in Ireland have been given the opportunity to focus on the 410-430 MHz band for LTE technology as it is unlikely that 450-470 MHz will be available in Ireland in the foreseeable future. As an aside, the proposal aligns well with the approval by 3GPP in June 2019 of LTE bands 87 and 88 (410-430 MHz) and the recent conclusions of working group FM54 covering the same frequency range.

### Memorandum of Understanding

- International co-ordination will be a priority as utilities have to provide service to the very edges of the Republic of Ireland's border. However, in the case of utilities, networks share resources on a cross-border European-wide basis with regulation on a European basis. It is often quoted that radio waves do not respect international borders, but the same is true of wind, water and sunlight. EUTC and its members are therefore at ComReg's disposal to assist in international co-ordination of use of radio spectrum by utilities wherever EUTC can be of help. Specifically, EUTC encourages spectrum harmonization and co-ordination on a European basis to facilitate lowest cost solutions and enhance Europe's industrial strengths, and wishes to support the Irish Administration in their endeavors in this direction wherever possible.

*Adrian Grilli  
Secretary, Radio Spectrum Group  
European Utility Telecom Council  
July 2019  
Brussels*



## **3 Joint Radio Company Limited**



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To: Mr. Patrick Bolton

## Proposed 400 MHz Band Spectrum Award

### Draft Information Memorandum and Draft Regulations

Dear Mr Bolton,

As representatives of critical system operators and key stakeholders within the UK and Ireland Energy Sector the Joint Radio Company (JRC) welcomes the decision by the Commission for Communications Regulation (ComReg) to release spectrum in the 400 MHz band for “Smart Grid” operations. JRC has actively contributed to the consultation process undertaken by ComReg and acknowledges the thorough and detailed proposals established through this process. To this end, the release of the Draft Information Memorandum and Draft Regulations, Reference 19/56 Dated 12/06/2019, brings the consultation phase to a conclusion which we welcome, and we look forward to the release of the actual Information Memorandum and subsequent award process in due course.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Peter D. Couch', is written over a light blue horizontal line.

Dr Peter D. Couch, Chief Executive Officer, Joint Radio Company Limited (JRC)

The Joint Radio Company Ltd. (JRC) is an Industry-Owned Spectrum Management Organisation with primary responsibility for the management of radio spectrum used by the UK Energy Industry.

## **4 The Critical Communications Association**



Critical communications  
for all professional users

Follow us on  @TCCAcritcomms

11 July 2019

For the attention of Mr Patrick Bolton

Dear Mr Bolton

**TCCA welcomes the opportunity to provide a response to the 19-56 consultation.**

We truly believe that mission critical operation needs to have spectrum that is set aside for Public Safety and Security, Public Protection and Disaster Relief (PPDR), and for those that protect the critical national infrastructure such as the utilities and transportation organisations.

TCCA makes reference to the COMMISSION IMPLEMENTING DECISION (EU) 2016/687 of 28 April 2016 on the harmonisation of the 694-790 MHz frequency band, which in Article 3.A.1 states: "if PPDR radio communications are implemented, the technical conditions for wireless broadband electronic communications services in this annex should be used."

TCCA welcomes dedicated spectrum for utilities and PPDR in 410-430 MHz band in conjunction with the above decision. Decision 2016/687 is important in ensuring the development of safety services and the free circulation of related devices as well as the development of innovative interoperable solutions for PPDR and other critical communications infrastructure such as used for utilities and transportation.

TCCA also recommends joint and shared use of available dedicated spectrum – between organisations operating critical national infrastructure.

TCCA would welcome the full and necessary support of ComReg in developing a new ecosystem of LTE devices in this recently emerged band for BB-PPDR and utilities.

With kind regards

A handwritten signature in black ink that reads 'Tony Gray'. The signature is written in a cursive, slightly slanted style.

Tony Gray

Chief Executive

**About TCCA**

TCCA represents all standard mobile critical communications technologies and complementary applications. Our Members are drawn from end users, operators and industry across the globe. We believe in and promote the principle of open and competitive markets worldwide through the use of open standards and harmonised spectrum. We maintain and enhance the TETRA Professional Mobile Radio (PMR) standard, and drive the development of common global mobile standards for critical broadband. TCCA is a [3GPP Market Representation Partner](#), a member of the Mission Critical Open Platform ([MCOP](#)) project, and our Members actively contribute in 3GPP working groups. To find out more, please visit [www.tcca.info](http://www.tcca.info)