



An Coimisiún um
Rialáil Cumarsáide
Commission for
Communications Regulation

Consultation on the management of Radio Spectrum Interference Complaints

Non-Confidential Submissions to Consultation 19/108

Submissions to Consultation

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An Coimisiún um Rialáil Cumarsáide
Commission for Communications Regulation

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Submissions Received from Respondents

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1: 2RN



RESPONSE TO COMREG CONSULTATION on THE MANAGEMENT OF RADIO SPECTRUM INTERFERENCE COMPLAINTS

ComReg 19/108

Summary Comments

2RN owns and operates national TV and Radio broadcast networks used to carry national TV and Radio services to approximately 98% of households and roadways in Ireland. Protection against interference is essential to the integrity of these services.

While interference problems with these services are rare, it is important to have clear protocol for instances that do affect public service broadcasting, particularly given the important role it plays in delivering vital information to very large numbers of people during emergency situations or extreme weather events where other forms of communications are often disabled or not accessible. For example, during and in the aftermath of 2017's storm Ophelia, there was major disruption to fixed and mobile communications and electricity supply networks. During this time national broadcast services were kept on-air delivering important 'safety of life' information to anyone with a battery powered or car radio. At times during this event we estimate that up to 20% of homes nationally would have been solely reliant on the national FM broadcast network for information and updates. We are pleased to see broadcasting duly listed in the top tier of the new classification system.

Paragraph 24.

'For example, the mere association of certain organisations with "safety of life" may be artificially raising the importance of individual complaints.'

This statement needs some qualification or should be deleted.

Paragraph 33.

Suggest the removal of the term "and" between each of the clauses, to give ComReg more flexibility in allocating categories, allowing any of the three descriptions to be considered alone.

For example, interference to public service broadcasting in an urban area could result in a large number of users experiencing a loss of service, but with only one transmission site being affected.

Paragraph 34.

Suggest removal the word “multiple” from the first clause to give ComReg more flexibility in allocating this category, as per the example above. Interference to multiple TV or radio broadcast transmitters simultaneously is highly unlikely.

Paragraph 35.

Suggest removal of the term “and” from between each of the clauses to give ComReg more flexibility in allocating this category.

Paragraph 36.

Include a Broadcast TV interference example clause, to help differentiate genuine and legitimate broadcast interference complaints from Class C broadcast reception issues listed in Paragraph 38. Suggested text:

“Harmful interference to a TV broadcast transmitter such that there is a degradation in the quality of service being provided to the viewers.”

Accepting that you cannot list examples of all services, the two mobile base station clauses could be condensed into one.

If this suggestion is not acceptable then a footnote should be added to “Reception issues to domestic TV” in Paragraph 38, stating that this does not include “interference” to domestic TV which could be class A or B.

Paragraph 38.

While we understand that many domestic TV problems that are reported to ComReg may turn out to be reception issues, it is important that you continue to treat potential interference complaints as such and do not dismiss them without investigation where necessary.

2: Butler Technologies

My input would be from a Butler Technologies operational procedure we would abide by the 09.00-17.00 timeframe in contacting complainants unless, after leaving a card / contact details etc. they in turn revert outside these hours to agree a follow up meeting. This would in my mind be an agreement from them for us to contact them out of hours?

- Type A Cases would fall into our line of duty as if a mobile operator is having major impact on multiple base stations and sectors are deemed unusable I.E Cells locked down.
- Response time to Type A if passed onto us could prove difficult depending on case numbers at that time staff availability and geographical location, (highly unlikely but worth mentioning or keeping in mind).
- If possible all mobile operators to provide site locations, Cells impacted, Azimuths corresponding to cells impacted greatly reduces time wasted.

- If we're in a scenario when we're not meeting a field engineer, what constitutes the start date of a case? Just agree an arbitrary date with the MNO?

3: Eir

eir

Response to Consultation:

The management of Radio Spectrum Interference Complaints

ComReg Document 19/108



16 January 2020

DOCUMENT CONTROL

Document name	eir response to ComReg 19/108
Document Owner	eir
Status	Non-confidential

The comments submitted in response to this consultation document are those of Eircom Limited and Meteor Mobile Communications Limited (trading as 'eir' and 'open eir'), collectively referred to as 'eir Group' or 'eir'.

Response to consultation

eir welcomes the opportunity to respond to ComReg's Consultation in relation to the Management of Radio Spectrum Interference Complaints (MoRSIC). eir strongly believes that all elements of the operation of the regulatory framework must be reviewed periodically in a timely and proportionate manner to ensure such processes are operating in an effective and efficient manner. In this regard the review of the MoRSIC is overdue as it has been many years since the related definitions and processes introduced in 2007 have been reviewed.

Q.1 Do respondents agree with the proposed revised complaints classification set out above in Chapter 3 of this consultation?

eir agrees with the sentiment expressed by ComReg (para 24) that the classification of system should focus on the impact of the harmful interference and not the identity of the complainant. As such eir is supportive in principle with the approach proposed by ComReg. That said it is not immediately clear how ComReg will reform the system when its own expectations are that the new Type A *"would in essence be a combination of the current Class 1 and 2 complaints"* (para. 31). How will ComReg ensure that the bias in the current system is not carried over into the new regime?

Unfortunately the descriptions of the proposed classification regime are somewhat ambiguous as currently drafted. eir believes that the description for Type A requires more precision as it essentially defines the scheme. As ComReg notes *"cases falling under the Type B category would typically be those that fall short of the description for Type A"*.

Type A is described in paragraph 33 by a cumulative set of criteria:

- *"Depending on the type of radio communications service being provided there would need to be multiple stations experiencing interference simultaneously; **and***
- *The licensee would have no alternative back up channel to switch its service to **and***
- *Large numbers of users would need to be experiencing loss of service."*

The first bullet point makes a requirement that multiple stations must be impact *"depending on the type of radio communications service"*. In the context of a mobile network how many base stations would need to be impacted for ComReg to consider a complaint of harmful interference to fall within Type A? The loss of a single base station or even a sector, could impact a substantial number of mobile users. How will this be considered in the proposed classification scheme.

If a fixed link is subject to interference does the fact that it has two transmitters mean it falls within the description of 'multiple stations'?

What type of radio communications service would be exempt from having to have multiple stations impacted simultaneously? Should this be informed by the number of users impacted and/or the size of the impacted geographic area?

The second bullet point appears to be appropriate in that it requires a situation where the service to end-users is not available. However there may be circumstances when a service is severely degraded. How will these be dealt with in the proposed classification scheme?

The third bullet point also requires more precision to define the threshold '*large number of users*'. Given the importance of mobile services to end users we believe that the threshold should be set at 100 users. eir is also of the view that consideration should also be given to the size of the geographic area impacted by the harmful interference.

eir has no objection to the proposed definition for Type C provided ComReg can confirm that should it receive a submission it deems, incomplete the submitter will be informed and afforded an opportunity to address the deficit before the RSIC is categorised as Type C.

Q.2 Do respondents agree with the proposed new definition of response time set out above in paragraph 43 of this consultation?

ComReg proposed to amend the definition of response time to mean "*the time taken, from receipt of all the required information from the complainant, to ComReg, or its agents, being deployed into the field to investigate the cause of interference*". This is a significant improvement on the previous definition of response time which was tied to when the date for a site visit had been agreed (the site visit itself could be many days in the future therefore rendering the response time metric meaningless). The amended definition creates a stronger link to action being taken to actually investigate and remove the harmful interference.

ComReg proposes that the amended response time for Type A should be immediate (during ComReg working hours) and within 5 working days for Type B. Given that the demarcation between Type A and Type B is imprecise and not understood eir cannot comment on whether a 5 day response time service level is fast enough for Type B RSIC. The response time metric should be reviewed within 1 year of the amended regime for MoRSIC being adopted to ensure it is sufficiently responsive and fit for purpose.

eir believes that ComReg should also establish service levels for subsequent stages in the investigation process to give complainants comfort that RSIC will be fully resolved in a timely

manner. ComReg should set a target of 5 working days from the site visit to either resolve the RSIC or determine that another site visit is necessary. The complainant should be provided with a weekly progress report in respect of open investigations. These process improvements should apply to both Type A and Type B.

Q.3 Do respondents have any other comments in relation to the subject matter of this consultation?

eir believes that ComReg should be more transparent to the complainant when a case is resolved by providing feedback on the nature of the interference identified. eir is disappointed that to date ComReg has declined to provide feedback from an investigation when complete/resolved. This is despite in many cases eir providing information identifying the suspected interference source. eir notes that ComReg generally cites legal issues as a reason for not providing feedback. However eir does not consider this to be an acceptable justification on the part of ComReg. Feedback is required to improve the management of interference issues. The sort of feedback requested by eir is confirmation that the source is or is not that which it identified and some information as to the equipment responsible in order to aid our future investigations and help speed up resolutions. It should be possible to provide such information, if required in a format that will meet legal requirements.

4: HSE

**Ms. Ciara Norton
Commission for Communications Regulation,
One Dockland Central,
Guild Street,
Dublin 1,
Ireland.**

Date: 15th January 2020

Ref : Submission to Comreg 19/108

Dear Ms Norton.

I write on behalf of the Health Service Executive National Ambulance Service in response to the recent consultation document "Consultation on the management of Radio Spectrum Interference Complaints Consultation Reference: ComReg 19/108 Version: Final Date: 05/12/2019".

On behalf of the National Ambulance Service I would like to stress the need for priority being given to investigating interference affecting our communications and the need for a 24x7 response where the interference is causing significant operational communication issues. As you will be aware Radio Communications Systems are a critical element of the National Ambulance Systems communications platform and the availability of same is critical to our service delivery.

As a major user of the NDRS our concern is that if interference were to impact in a significant manner and the cause of same was to have a major adverse effect on our operations (even if/when alternative operational options have been exhausted and prove ineffective) the cause of external interference should be escalated immediately and investigated by Comreg with a 24/7 response.

As an Emergency Service operation, and an Operator of Essential Services our role operates on a 24/7 365 basis. Indeed we have had protection from ComReg for a long number of years now and ComReg have been operational for ourselves and An Garda Síochána during weekends for many of these years.

I would be grateful if you could take this feedback into consideration when defining the response levels to critical issues.

5: Imagine

Imagine

Imagine's response to Consultation on the management of Radio Spectrum Interference Complaints

(ComReg 19/108)

ComReg 19/108

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COMPREES

1 Introduction

Imagine welcomes the opportunity to respond to the recent consultation ComReg 19/108 “Consultation on the management of Radio Spectrum Interference Complaints”.

ComReg

2 Imagine Response

Being an FWA operator Imagine does not suffer from the same volume or types of interference as for example a mobile operator would and in general does not have any situations that are “risk to life”. It does however have issues from time to time with interference in its liberalised 3.5GHz spectrum allocation but more often in its point to point links across all the frequencies it owns.

Imagine agree with the re-classification of complaint types and their associated SLA as discussed in Chapter3.

Imagine agree with the new definition of “response time” as set out in paragraph 43.

Imagine agree with the new complaint handling process as laid out in figure 7.

We welcome the SII forum whereby there is regular feedback to the various industry segments on complaint performance and think this is an appropriate forum for regular updates on numbers of complaints by type and how the SLA’s have been met.

6: Irish Aviation Authority (IAA)

Re:IAA Response to Comreg consultation 19/108

Dear Sir/ Madame,

The Irish Aviation Authority would like to thank Comreg for the opportunity to express its views on the consultation on the Management of Radio Spectrum Interference Complaints.

The Irish Aviation Authority would like Annex 1 of this response to be viewed as confidential as responses could be used to undermine the security of the air traffic control and air navigation services provided by the authority.

If Comreg do not agree with this security classification, IAA require Comreg to contact us and do not proceed to publish comments without IAA review.

Introduction:

The objective of safety management in the aviation industry is to prevent human injury or loss of life, and to avoid damage to the environment and to property.

The primary focus of safety management in aviation is on safety of flights including all associated and support services, which can have an impact on safety, for example air navigation services, aerodrome operations management, air traffic control and enroute services.

In Europe the aviation safety regulator is EASA and assistance to member states is provided by Eurocontrol.

Frequency Management Role:

The IAA employ a National Aeronautical Frequency manager, as the state appointed contact to manage the aeronautical frequency bands and to ensure that aeronautical frequencies can be used safely (i.e. analysis, mitigation and prevention of interferences).

The National Aeronautical Frequency manager promotes the application of frequency management best practices which underpin the safe evolution of the aeronautical spectrum.

The role further safeguards permanent access to the required frequency bands to ensure clear communication paths between air traffic controllers, pilots and the sensors used for air navigation service provision.

The role also ensures that use of the aeronautical radio frequency spectrum allocated to Ireland and made available for aeronautical use, in support of communication, navigation and surveillance systems is free from interference and does not cause interference to assigned aviation services within the aeronautical bands.

Aviation safety is at the core of IAA's fundamental objectives.

Commission Regulation 123/2019 Annex III Part B Paragraph 4 requires National Frequency Managers to report to the Network Manager radio interference cases that impact the European aviation network and interference cases that have an impact on flight safety or the capacity of the Air Traffic Management network.

In addition, National Frequency Managers are encouraged to report, at the earliest opportunity, all interference cases and potential causes of interference which they consider useful. This is to improve the quality of the frequency management processes and to assist other countries in the resolution of interference cases (e.g. interference caused by trans-border transmissions, interference caused by new, unusual phenomena, interference caused by new systems e.g. GNSS repeaters).

The timely reporting of interferences is applicable to all aeronautical communications, navigation and surveillance systems regardless of whether they are subject to international frequency coordination or whether they contain ground-based elements.

Safe Air Traffic Services Provision:

Air traffic control operators safely guide aircraft within their sectors using broadcast radio communication, surveillance data and navigational aids. Responsibility for safe aircraft separation lies with the controller. Voice radio communication is one tool enabling controllers to give flight instructions and clearances to pilots. IAA employed air traffic controllers are trained in procedures to deal with interference as it happens.

Table 1 below contains a list of services that help ensure aircraft remain safely separated.

Table1

IAA safety of life services that utilise protected frequency assignments to support the separation of aircraft include:

Air-Ground communications	VHF DSB-AM (Voice)
	VHF Data Link
Radio navigation	NDB / Locator - non-directional (radio) beacon
	VOR - Very High Frequency (VHF) Omni-Directional Range
	ILS LOC / ILS GP - precision final approach and landing aid
	DME -distance measuring equipment
	GBAS – ground-based augmentation system
Surveillance	Primary Surveillance Radar
	Secondary Surveillance Radar

To maintain safety services IAA complies with comprehensive safety regulation, regular equipment maintenance and inspection programmes to ensure that air navigation services that require aeronautical spectrum to function, operate without causing interference.

The IAA has invested in equipment and training to investigate cases of interference it receives to its equipment.

The IAA employ engineers who deal with interference cases on a regular basis, the majority of which are not reported to Comreg and are resolved by the IAA.

The IAA triages its cases of interference and only escalates cases to Comreg where it deems it does not have the legal capacity to stop the interference and prevent it from occurring, i.e. where the interference occurring is outside of its control and where the interference is deemed to create a risk to the safety of the service provided.

NIS Directive Si 360/2018

IAA has been designated an operator of essential services (OES) by the state.

Regulation 18 of the NIS Regulations imposes a mandatory obligation on all entities designated as OES.

“18. (1) (a) An operator of essential services shall notify the CSIRT in accordance with paragraph (2) of any incident concerning it that has a significant impact on the continuity of an essential service provided by it in respect of which it is designated as an operator of essential services.

A reportable incident is any incident which has a significant impact on the continuity of an essential service which an Operator of Essential Services provides.

In this context, significant impact means that the essential service provided by the Operator of Essential Services must be interrupted and must not be operational for a given period of time. A reportable incident is determined using the significant impact parameters contained in the Directive.”

IAA are now required to report any incident that has an effect on the operation of Air Traffic Control Services supplied by them within the State.

Irish controlled airspace acts as a gateway between Europe and North America, with the IAA's Area Control Centre in Shannon handling over 90% of all air traffic on the North Atlantic. This equates to approximately 1,400 - 1,500 aircraft every 24 hours during the busy summer months.

This airspace controlled by the Shannon Centre is unique in that it acts as an interface between North Atlantic (non-radar environment) and domestic European air traffic

(radar environment). These two traffic streams must be managed and integrated daily. North Atlantic eastbound traffic affects core European traffic daily.

Refer to Annex 1 (a) **[CONFIDENTIAL]**

Comments

1. Do respondents agree with the proposed revised complaints classification set out above in Chapter 3 of this consultation.

No, we do not agree. The proposed new complaint classification does not reflect the operating environment of air traffic services and does not apply safety of life status to the air traffic service once a complaint of interference is lodged.

IAA believe an additional Type or amendment to Type A should be added that acknowledges that the air traffic control and air navigation services provided by IAA receive safety of life classification.

The ITU themselves recognise this:

Protection of safety services

Safety services are radiocommunications services used for safeguarding human life and property. For example, all aeronautical operational and air traffic control and many maritime communications are fundamentally safety of life. The systems, including radio navigation systems and radio navigation satellite systems, used for safety of life often depend on the ability to detect a weak or distant signal where interference can critically affect reception.”

IAA are concerned that the time taken to triage could lead to delays in the issue being resolved.

Refer to Annex 1 (b) **[CONFIDENTIAL]**

2. Do respondents agree with the proposed new definition of response time set out above in paragraph 43 of this consultation.

No, IAA do not agree with the definition. The word all should be replaced with the form Annex 1: Case Reporting Requirements.

3. Do respondents have any other comments in relation to the subject matter of this consultation

Yes. IAA believes that there should be an early notification procedure to assist the triage process and give early warning to Comreg of a developing situation.

IAA acknowledges the difficulties faced in interference investigations. The proposed response time in combination with the proposal for type A and Comreg working hours do not create an effective immediate response time.

With respect to a response time of 5 days, it may take a complainant several days to ascertain that the interference is not being caused by themselves or their equipment. Thus, complainants experiencing external harmful interference that is having an impact on its services would like to have the interference resolved as soon as possible once they escalate to Comreg.

To guarantee safety of service and provide safety assurance IAA believe that a 24/7 service is required to aid resolution of interference cases to safety of life services.

Please see additional comments below

3 Proposed revised case classification

26. For greater clarity a definition of harmful interference should be provided.

27. To avoid conflict, safety of life services should be defined appropriately to prevent delays in triage. Opposing views held by either party on whether interference is harmful could lead to further complications and delays in issue resolution.

3.1 Proposed new complaint classification

See comment 1 above

Proposal for Type A

See comment 1 above

Proposal for Type B

35. IAA don't believe the impact of loss of service is being measured by proposal Type B.

For instance, the emergency VHF channels are only utilised in an emergency however they are afforded greater protection within the bands that they sit. They are not used by a lot of users however they are available for a lot of users to use should they be required.

36. Number of users affected is not a requirement to report in Annex: 1 Case Reporting Requirements.

Proposals for Type C

No comment

Proposed new response time definition

See comment at 2 above

7: Irish Radio Transmitter Society

Introduction

The Irish Radio Transmitters Society (IRTS) welcomes the opportunity provided by the Commission for Communications Regulation (ComReg) to comment on Consultation on the management of Radio Spectrum Interference Complaints, document ComReg 19/108.

The IRTS was founded in 1932. It is a non-profit organization and is the Irish national society that represents licensed amateur radio operators in Ireland in respect of government and public relation matters. The IRTS is an active member of the International Amateur Radio Union (IARU), which is a sector member of the Radiocommunication (R) and Telecommunication Development (D) sectors of the International Telecommunication Union (ITU). The IARU also has observer status in all six regional telecommunication organizations, including the European Conference of Postal and Telecommunications administrations (CEPT), which addresses European technical telecommunications regulatory matters, often under mandate from the European Commission. IRTS Members hold within IARU Region 1 the roles of Chairman of the Political Relations Committee (PRC) and Chairman of the Spectrum and Regulatory Liaison Committee (SRLC). The SRLC Chairman usually represent IARU-R1 in the Frequency Management Working Group of CEPT ECC. Dependent on the ITU WRC agenda the SRLC may also represent IARU-R1 in the Conference Preparatory Working Group of CEPT as well as in ITU-R Study Group 5 (terrestrial radiocommunications)

Amateur Service

Amateur radio internationally is part of the leisure category of radiocommunications applications but has the distinction of being defined as a radiocommunications service in the ITU Radio Regulations¹, an international treaty instrument. In Article 5 of the Radio Regulations a number of frequency bands have been allocated to the amateur service and amateur-satellite service throughout the radio frequency spectrum.

Article 1.56 of the Radio Regulations describes the Amateur Service as, " a radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest."

It is primarily a hobby in which participants use various types of radio communications equipment to communicate with other radio amateurs for public service, recreation and self-training and technical investigations. The term 'amateur' is not a reflection on the skills of the participants, which are often addressing state of the art techniques in radiocommunications;

¹ Radio Regulations of the International Telecommunication Union, Geneva.

rather, the term 'amateur' indicates that amateur radio communications are not primarily involved in any commercial activities.

In Ireland radio amateurs, having passed an appropriate technical and regulatory examination, are licensed by the Commission for Communications Regulation (ComReg) under the Wireless Telegraphy (Amateur station Licence) Regulations, 2009 (S I No. 192 of 2009) Radio amateurs establish radiocommunications stations in order to conduct experiments with a view to the development of science or technique. Amateur stations utilise but are not limited to frequency bands allocated in Ireland to the amateur service. Irish radio amateurs are therefore involved in the recreational, public service, self training, technical investigations and experimentation aspects of the global amateur radio movement.

Amateur radio operators enjoy personal (and often worldwide) radio communications with each other and in many jurisdictions (including Ireland) are able to support their communities with emergency and disaster communications as appropriate, while increasing their personal knowledge of electronics and radio theory.

In furtherance of public service emergency activities a group of radio experimenters formed the Amateur Radio Emergency Network (AREN). This network operates under the umbrella of the IRTS and is essentially run by the AREN organisation in co-operation with ComReg. The Network was sanctioned following Ireland's adoption of Resolution 640 (1979) of the ITU Radio Regulations, which provides for the utilisation of amateur radio communications in emergency situations. Previously, Irish radio experimenters were licensed to communicate only with other radio amateurs nationally and internationally. ComReg, however, now extends the terms and conditions of the licences' of radio amateurs who are members of AREN to permit them to pass messages on behalf of a range of designated emergency services. It is worth mentioning that the contribution of amateur radio operators to providing communications in times of emergency or natural disasters throughout the world is well recognised and documented.

A side benefit of amateur and experimental radio is the fostering of an interest in STEM subjects in children and young people, which in many instances will stimulate an educational and career path for the person involved. This in turn may create a greater pool of professionally qualified persons, which are available for employment in the Irish ICT sector.

There are approximately three million amateur stations in the world, a number that is increasing at the rate of 7% annually. The number and variety of modes of emission used by radio amateurs are also expanding, creating internal pressures within the amateur service for their accommodation at the expense of users of established modes such as single-sideband telephony and manual Morse code telegraphy operations. These new modes include digital voice, data and image. Their use improves the efficiency of amateur operations, but also increases the popularity of amateur radio and therefore the amount of frequency congestion.

Four years after the launch of the first man-made satellite (Sputnik) amateur radio enthusiasts launched OSCAR 1 (Orbital Satellite Carrying Amateur Radio) in 1961. Since then the amateur satellite programme has developed significantly and today ARISS (Amateur Radio on the International Space Station) allows school children throughout the world to speak with the

astronauts while the FunCube project allows schools to experience orbital physics and satellite telemetry experiments.

In addition amateur radio operators continue to investigate propagation effects and are contributing to a greater understanding of how radio waves propagate for small percentages of time. Such scientific and investigative work requires frequency allocations in key parts of the spectrum and an extensive beacon network in order to conduct measurements over long periods of time.

In the context of the self-training and technical investigation aspects of amateur radio, the IRTS welcomed the Minister for Communications, Energy and Natural Resources'² commitment in the Department's 2014 Consultation on Spectrum Policy Priorities, to ensure that an adequate amount of useful spectrum continues to be available for amateur radio and scientific applications. Spectrum for these applications is important from an educational, research and recreational perspective and is vital in helping to ensure an ongoing interest in technology and in furthering our understanding of radio propagation and communications.

RFI and the Amateur service

The majority of amateur radio stations are located in residential areas and as a result many radio amateurs have experienced Radio Frequency Interference(RFI).

IRTS supports members with diagnosing and resolving RFI issues and notes that the majority of cases involve interference to the MF and HF amateur bands (allocations between 136 kHz and 30 MHz). a substantial proportion of these cases are resolved at the local level by means of cooperation between the affected radio amateur and the apparatus or equipment which is the source of the interference.

It is also worth noting that in many RFI cases there are actually two 'victims' the first is the radio spectrum user, the second being the consumer who has purchased in good faith a device or a 'fixed installation' that may not be in compliance with the relevant EMC standards.

IRTS considers that appropriate product standards should be a fundamental part of spectrum protection and therefore participates in standards development work through participation in relevant committees of the National Standards Authority of Ireland (e.g. NSAI W/G TC16).

Appropriate product standards help to protect both radio users and consumers. Although compliance with harmonized standards provides a 'presumption of conformity' with the Essential Requirements of Directives of the European Parliament and of the Council, this does not

² The Department of Communications, Energy and Natural Resources (DCENR) is now the Department of Communications, Climate Action and Environment (DCCAIE)

guarantee that such requirements are fully respected and will provide spectrum protection and ingress immunity in all cases.

IRTS Response

A robust and well defined investigative service is important to protect spectrum users from interference and to protect consumers from sub-standard equipment and fixed installation issues.

IRTS is pleased to note that ComReg intends setting up a SII Operators forum and IRTS looks forward to taking part in this forum once it is established. IRTS is also encouraged by the proposal to formally define the investigative process and concurs that it is appropriate that response times are defined.

IRTS is also of the view that it is appropriate that the 'victim' should be required to confirm that the interference is resolved as part of the closure process for complaints, however there should be a mechanism to reference a prior case should the same interference reoccur at a later date.

In terms of location reporting, it is worth noting that almost all amateur radio stations and many sources of interference are located in premises that can be uniquely identified by Eircodes. IRTS would therefore suggest that an Eircode should also be acceptable as a 'location' in the reporting process.

In Ireland the majority of cases involving interference to or from amateur service licensees are resolved informally through contact and cooperation between the affected parties. However it would be of value if within market surveillance activities there would be a mechanism for users of radiocommunications to submit information on informally resolved cases since some of these cases are likely to involve suspected non-compliant devices which are available in the Irish market.

In response to paragraph 49:

1. IRTS broadly agrees with the proposed revised complaints classification but would like ComReg to address how receive only stations can be protected. Persons operating receive only stations are often the means persons learn about the amateur service. Many such persons go on to pass the amateur examination and obtain an amateur licence. IRTS is of the view that there may be circumstances where it is appropriate for a formal investigation and remedial action taken on the foot of an appropriately documented case from the operator of a receive only station.
2. IRTS agrees with the proposed definition of response time and notes that the amateur service appears to generally fit within 'Type B'
3. IRTS believes there should be a defined method for radio users and consumers to report devices suspected of not complying with relevant standards for the purposes of

providing relevant information to the market surveillance team to allow them to instigate compliance testing.

IRTS would like to extend its thanks to ComReg for the opportunity to respond to this consultation process and hopes that the Irish telecommunications regulator will be favourably disposed to the suggestions and requests outlined in this document.

IRTS remains at ComReg's disposal if further information or clarification is required. IRTS would also like to state that nothing in this document needs to be considered as restricted or confidential.

8: Tetra Ireland



TETRA Ireland Response to Consultation

ComReg 19/108:

*"Consultation on the management of Radio
Spectrum Interference Complaints"*

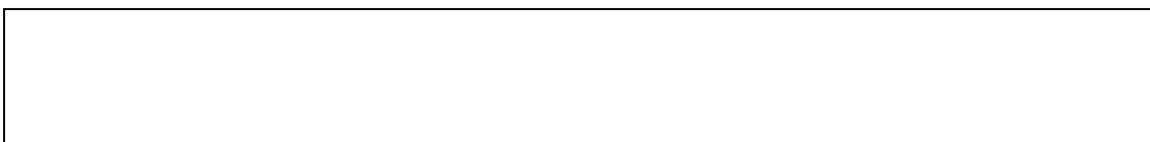


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1 Introduction

As the operator of the national PPDR¹ communication system in Ireland, TETRA Ireland welcomes the opportunity to respond to ComReg's "Consultation on the management of Radio Spectrum Interference Complaints" 19/108.

The nature of PPDR communication systems such as the NDRS² operated by TETRA Ireland, which provides critical communications to Ireland's emergency services agencies, means that harmful interference (as defined in Framework Regulations S.I 333 of 2011) has the potential to impact on end user's radio operations. Therefore, harmful interference should be investigated and treated as a priority by the system operator and once identified as being outside of the system operator's control the harmful interference should be reported to ComReg's SIIU for urgent attention and resolution. Given the critical nature of services such as the NDRS we believe that the ComReg SIIU response to such reports needs to be available on a 24x7 basis where the interference is potentially impeding emergency services user communications and no workaround is available to the operator.

We propose the following classification for interference complaints affecting emergency services and public safety services:

- Type A (1) Defined as externally generated harmful interference which impacts more than one frequency (transceiver) and/or station (as defined by the ITU), where backup frequencies do not provide relief and where no work around is available. The presence of harmful interference would be detected by end user complaints being received and/or system network management pre-agreed monitoring thresholds being breached. Following appropriate investigation by the operator to exclude internally generated interference this interference type would be escalated by phone to ComReg's SIIU with a 24x7 response being provided. The criteria for excluding self-generated/internal interference and the definition of the internal investigations should be clearly pre-agreed on a bilateral basis with ComReg taking the specifics of the technology into account.
- Type A (2) Defined as externally generated interference which impacts a single frequency transceiver and/or station (as defined by ITU) and where a backup frequency temporarily alleviates problem. Investigation of the interfered frequency is therefore required on a less urgent basis. This type would be reported by email as suggested by ComReg under its Type A.

It should be noted that for many emergency services and public safety services agencies their busiest work periods are not always during the standard work week (e.g. Monday to Friday 9am-5pm) and can be at night time and at weekends. The presence of harmful interference during these hours could adversely affect those operations when at their busiest. Thus ComReg's SIIU's ability to respond to complaints only during working hours of 9:00 am to 5:30 pm Monday to Friday are considered insufficient for the proposed interference Type A (1) which is defined above. For example, if interference of the this type is reported on a Friday evening, no action would be taken by SIIU until Monday at the earliest – more than 65 hours later

¹ Public Protection and Disaster Relief

² National Digital Radio Services

Using the alternative new definitions of Interference Types, proposed above, there should be a mechanism for escalation by phone for Type A(1) with an immediate 24x7 response by ComReg's SIIU, due to the critical nature of operations in the PPDR arena.

2 Responses to specific paragraphs of ComReg 19/108

2.1 Response to Section 1 - Introduction

Response to Paragraph 6:

We agree with the statement that "*emergency services and so called "safety of life" operations generally receiving the highest priority*" and we believe that they should continue to do so.

2.2 Response to Section 2 - Background

Response to Paragraph 10:

We agree that "*the establishment of the SII Operators Forum, which aims to deepen engagement between ComReg and licensees by discussing topics of shared interest and future trends*" is a positive development. However we believe that a separate forum should exist for PPDR and public safety operations as the current forum is more suited to non PPDR services.

On bullet point 4: We would also suggest further details be provided by ComReg on any current or future planned technologies being proposed for the Spectrum Monitoring Network and the timescales for its deployment.

2.3 Response to Section 3 – Proposed revised case classification

Response to Paragraph 24

We believe that the identity of the complainant is important to the categorisation of the complaint. In particular, we believe that communications systems supporting PPDR, such as the NDRS, should undoubtedly be treated with higher priority than other non-PPDR services. We do agree with ComReg that resources should be directed to where the impact of harmful interference has the greatest effect and we believe that degraded, broken or unreliable communications to emergency services is such a case. We note that the Framework Regulations S.I 333 of 2011 define harmful interference as "*endangers the functioning of ... other safety services*". We believe that our proposed Type A (1) meet the criterion in that the functioning of the NDRS is endangered.

Response to Paragraph 25

We support ComReg's proposals that detailed and reliable information is required to allow it to operate its processes optimally and would fully cooperate in defining such requirements for the NDRS on a bilateral basis as they may differ to those of other wireless and mobile networks. However, the information to be provided must be reasonable and achievable to allow it to be obtained in a timely manner and not of such a nature as to make the reporting requirement so onerous as to be unachievable.

Response to Paragraph 26

As operator of the NDRS network TETRA Ireland takes a proactive approach to its operations to provide optimum service to the emergency services users, including interference monitoring via alarms on the appropriate network management system. When emergency services users on the ground experience issues they may not report such concerns immediately (or take a long time to report) because they may be focused on their operational activities and would typically be unaware of the potential presence of interference. Therefore the reporting of the impact of interference to the network operator may only occur sometime after an event has occurred and may be perceived as coverage or some other service issue. Therefore we believe that the identification of interference based on proactive monitoring of network management systems pre agreed thresholds for interference levels being breached should be sufficient to be defined as harmful to end user operation. Waiting until there are complaints from users (who may not know why they experience difficulties) has the potential to disrupt on-going emergency service operations.

ComReg state that "*unless it is satisfied that the interference is 'harmful', outside of the complainants control and that all reasonable steps have been taken by the complainant to minimise the effect.*" This statement should clarify and define 'reasonable steps' as per our response to paragraph 25 above.

Response to Paragraph 27:

Where the *interference it is experiencing is, in its view, harmful, outside of its control and that the affected apparatus is functioning correctly* a phone number should be provided by ComReg to allow such high priority cases to be reported and investigated on a 24x7 basis.

Response to Paragraph 28:

It should be noted that for many emergency services and public safety services their busiest work periods are not always during standard work week and can be at night time and/or at weekends. The absence of a response to harmful interference complaints such as the Type A (1) could adversely affect those operations when at their busiest.

Response to Paragraph 31 and 32:

We believe that there should be a separate classification for interference complaints that impact emergency services and public safety services as proposed below:

Type A (1) Defined as externally generated harmful interference which impacts more than one frequency (transceiver) and/or station (as defined by the ITU), where backup frequencies do not provide relief and where no work around is available. The presence of harmful interference would be detected by end user complaints being received and/or system network management pre-agreed monitoring thresholds being breached. Following appropriate investigation by the operator to exclude internally generated interference this interference type would be escalated by phone to ComReg's SIIU with a 24x7 response being provided. The criteria for excluding self-generated/internal interference and the definition of the internal investigations should be clearly pre-agreed on a bilateral basis with ComReg taking the specifics of the technology into account.

Type A (2) Defined as externally generated Interference which impacts a single frequency transceiver and/or station (as defined by ITU) and where a backup frequency temporarily alleviates problem. Investigation of the interfered frequency is therefore required on a less urgent basis. This type would be reported by email as suggested by ComReg under its Type A.

In particular, ComReg's proposed new classifications would seem to more appropriately fit non-public safety operations; we feel emergency and public safety services should be provided with a different level of priority and investigation.

Response to Paragraph 33

We feel that the requirement to endanger communications to a 'large numbers of users' as used in the general description of Type A is not suitable to emergency or public safety operations. Individual emergency services operations may only engage a small number of critical personnel (e.g. an ambulance, fire tender or Garda vehicle involved in an emergency response or operation) and therefore this requirement is more suitable to non-PPDR services. We have suggested a re-definition of this Type A classification, by dividing into two separate classification types, as illustrated above in our response to Paragraph 32.

Response to Paragraph 34

It should also be noted that poor or bad quality communications is as disruptive to emergency services (or sometimes even more so because of the confusion it can cause) as a complete loss of communications, due to interference. This is catered for in the definition of harmful interference in Framework Regulations S.I 333 of 2011.

Response to Paragraph 43:

"All the Required information" needs to be clearly defined and the steps to be taken by the system operator to provide ComReg's SIIU with the required information should be pre-agreed on a bilateral basis for the interference categories.

Response to Paragraph 44:

Using the alternative new definitions of interference categories proposed by TETRA Ireland above and because of the time sensitive nature of operations in the PPDR arena, there should be a mechanism for escalation to ComReg's SIIU by phone for category Type A (1) with an immediate 24x7 response.

We would suggest that the hours of working of 9:00 am to 5:30 pm Monday to Friday is insufficient for the proposed interference Type A (1) because, for example, if interference of this type is reported on Friday evening, no action would be taken by SIIU until Monday at the earliest – more than 65 hours later.

9: Three Ireland

Radio Spectrum Interference

**Response to Document 19/108 from
Three**

17th January 2020



Three.ie

1. General Comments

Three welcomes this consultation by ComReg into important matters around resolution of radio spectrum interference. There have been several positive changes in this area over the past year, including the establishment of the SII Forum and the decision to contract an outside agency to help manage the workload of cases. Three has experienced a noticeable improvement in its ability to have causes of interference investigated during this time.

While it is understood that in some cases ComReg might need to withhold information in order to protect enforcement proceedings, Three would like to receive feedback from ComReg on the generic nature of the sources of interference found, the type of device, the nature of the emission, etc. This would help Three in turn to be more precise in the information provided to ComReg when an investigation is requested. We suggest that the SII Forum would be an appropriate means to share this information.

The work carried out by Customs and Excise to intercept non-compliant equipment from entering the market is not necessarily visible to spectrum users. It would be good for spectrum users to also have some insight into what is being found here, and again perhaps this could be done through the SII Forum.

For the SII Forum itself, we suggest that the frequency of these meetings can be adjusted to suit workload and/or developments in the market.

While Figure 3 in the consultation document shows a steady decrease in the number of cases reported since 2016, we would caution that this trend may reverse when operators begin to roll-out in the 3.6GHz band. In general, it seems that the roll-out of new networks and re-farming of spectrum can be expected to “flush-out” sources of interference that had previously gone unnoticed.

2. Classification and Response Times

Three is of the view that the current classification of interference cases and response times needs to be revised, and we welcome ComReg’s proposals in this regard. Figure 5 shows that 51% of all complaints come from mobile networks, and under the current definitions, Class 2 is “*Interference that renders a licensed channel unusable or has a detrimental effect on the economic interests of a licensee*”. In Three’s experience, the vast majority of complaints submitted by mobile operators would fall into the Class 2 definition, however Figure 4 shows that the vast majority are classified as Class 3 or Class 4. There is a mismatch here that needs to be corrected, as the mis-classification of complaints leads to unrealistic expectations or inappropriate response times.

We are of the view that ComReg’s proposed new classification system is better than the current one, though we note that the most important thing is to match an appropriate response time to each case, and that this can be done under any classification system. We agree with the proposal to classify interference as Type A, Type B, or Type C. While it is expected that a significant number of the Type B complaints will be eligible to be outsourced, we believe ComReg should also consider the outsourcing of some Type A cases.

Three agrees with the proposed new timelines in Table 2. We also agree that it is appropriate for the time to begin from the point where ComReg has received appropriate information if that information is reasonably available, however it is important to make sure that this does not become a new source of delay. We suggest that for Class B complaints, ComReg should review each complaint and specify within 2 working days if further information is required. We also agree that complainants should be allowed 2 working days within which to submit outstanding information. If supplementary information is not available, or is not available on time, then this should mean that the investigation is paused rather than being rejected.

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