

Consultation Document: Ref. 2004/3

**Consultation Paper on Proposed Modification of Licensing
Procedure for Private Mobile Radio (PMR)**

ICTA Consultation Paper

November 2004

Explanatory memorandum

Considering that:

1. The *Information and Communication Technologies (Amendment of Schedule) Regulations 2003*, which came in force on 21 July 2003, provides, *inter alia*, for the following three different licences in relation to PMR operations:-
 - a) Private Mobile Radio Base Station (RA12);
 - b) Private Mobile Radio (Repeater Station) Licence (where the licensee has been assigned the shared use of frequencies in a private mobile radio network or in a Private Access Mobile Radio Network) (RA13), and,
 - c) Private Mobile Radio Apparatus (Mobile/ Portable Station) (RA43).
2. The licensing procedure applicable for the above licences is the one laid down under Section 24 of the Information and Communication Technologies Act 2001 as amended. Section 24 (3)(a) of the ICT Act 2001 as amended provides as follows:-

24. Licensing

- (1).....
- (2).....
- (3) Upon receipt of an application referred to in subsection (2), the Authority –

(a) shall, in the case of such licences as may be prescribed, forthwith give public notice of the application in 2 daily newspapers and invite any interested person who wishes to object to the application to do so in writing within 14 days;

...

3. The ICT Authority has received representations from the industry to the effect that the delay resulting from compliance with the requirement for publication of applications for Private Mobile Radio (PMR) Licences unduly impairs the PMR business as it is not possible for dealers to deliver the apparatus upon purchase. On an average there is a delay of two months between the time an application is filed with the Authority and the time of issue of the licence.

The Information and Communication Technologies Authority accordingly proposes to examine whether the current procedure should be reviewed with a view to reducing the delay in approving applications for PMR licences. For this purpose, Consultation Document Ref 2004/3 is being made available for public consultation.

The Authority hereby invites views, contributions, and comments thereon. Same should be sent to the **Executive Director, ICT Authority, Jade House, Remy Ollier Street, Port Louis**, or by email to iccta@intnet.mu, at latest by 15th December 2004.

N. Parameswaran

Executive Director, ICT Authority

1.0 Introduction

1.1 Private Mobile Radio (PMR) is part of the land mobile service and provides two-way communications between a fixed control point (base station) and a number of mobile transceiver units (vehicular or hand-held portable stations). The coverage area of PMR is either localized or island-wide;

1.2 In Mauritius, the following frequency bands are allocated to PMR networks:-

- a. 146.0 – 174.0 MHz (VHF);
- b. 406.1 – 430 MHz (UHF);
- c. 440.0 – 470.0 MHz (UHF);

1.3 The Channel spacing used in both the VHF and the UHF bands is usually 12.5 kHz or 25 kHz subject to the approval of the Authority;

1.4 There are generally three main categories of PMR systems currently used worldwide, namely:-

- a) Public Mobile Radio Trunking Systems (PMRTS);
- b) Conventional Private Mobile Radio, and,
- c) PMR 446.

1.5 PMRTS is comparable to a Public Land Mobile Network (PLMN) in as much as no spot assignment of spectrum is required to be made by the Authority for each user of the PMRTS; instead frequency assignment is made with respect to the PMRTS operator;

1.6 Conventional PMR is a mobile radio system comprising of mobile/portable units and base stations. This system requires that spot frequency assignment be made by the Authority;

1.7 In a single frequency conventional PMR network, the portable radio stations transmit and receive on the same frequency. The effective isotropic radiated power (eirp) of portable stations is limited to 5W. Normally, no base station is involved and the coverage is limited within a few kilometres.

1.8 In a two frequency conventional PMR network, the base station transmits and receives at different frequencies. The base station transmits at higher power to provide wider area radio coverage.

1.9 PMR 446 is a hand-portable, low power, short-range voice only communication radio equipment operating on the 446 – 446.1 MHz harmonized band in accordance with ERC/DEC/(98)27. As such, this device is available on a free circulation basis in many countries, including European countries;

1.10 The PMR 446 is currently **NOT** allowed in Mauritius, however this radio equipment may be easily purchased over the Internet; also Mauritian citizens

visiting other countries often bring these in Mauritius without the proper Authorisation;

2.0 Licensing Procedure for Conventional PMR

2.1 It is proposed that the licensing procedure for conventional PMR be modified as follows:-

- a) PMR application not to be prescribed in the list of licences for which the notification requirements as specified in Section 24 of the ICT Act 2001 as amended applies;
- b) Apply spectrum licensing to PMR instead of the current apparatus licensing as follows:-
 - i. Assign single frequency channels primarily for low power (i.e. transmitted power of 5W eirp or less) PMR networks, especially for handheld-to-handheld portable communications in a confined area (e.g. within a building compound or a manufacturing plant site). A base station operated in this configuration to be limited to 5W eirp or less;
 - ii. Existing PMR networks using simplex mode for mobile to base communication to continue to be allowed with base stations limited to 15W eirp and mobile units limited to 25W eirp; however no new PMR network may be allowed with this configuration;
 - iii. Assignment of two frequency channels for high power transmitted power (i.e. max. of 25W eirp for mobile units and max. of 15W eirp for base stations) PMR networks where the intended service coverage is large, subject to the determination of the Authority. Repeater mode of operation may be allowed on a two-frequency network.
 - iv. The future spectrum allocation to be dependent on the number of portables/mobiles in the fleet as shown below:-

Type of PMR system	Minimum Number of portable/mobile units	Maximum Allowable eirp (W)	Nature of Frequency Assignment
Single frequency	5	Portable unit: 1 W Base Station: 1W No mobile station	Shared (portable to portable and portable to base station (and vice versa) communication in a confined area as determined by the Authority)
Single frequency	20	Portable unit: 5 W Base station: 5 W No mobile station	Shared (portable to portable and portable to base station (and vice versa) communication in a confined area of operation as determined by the Authority)
Two frequencies	25	Portable unit: 5 W Base Station: 15 W Repeater unit: 15 W Mobile unit: 25 W	Exclusive (Island wide)

2.2 The *Information and Communication Technologies (Amendment of Schedule) Regulations 2003* to be amended as follows to include:-

Type	Description
SPL.1a	Network Spectrum Licence for PMR network using shared spectrum in the frequency band below 500 MHz at eirp of 1W or less
SPL.1b	Network Spectrum Licence for PMR network using shared spectrum in the frequency band below 500 MHz at eirp of 5W or less
SPL.1c	Network Spectrum Licence for PMR network using exclusive spectrum in the frequency band below 500 MHz

2.3 The *Information and Communication Technologies (Amendment of Schedule) Regulations 2003* to be amended to include a Private Mobile Radio Network Licence under the Private Network Licence category (Category 2) as follows:-

Type	Description
Private Mobile Radio (PMR) Network	To establish a Private Mobile Radio (PMR) network allowing base station to mobile/portable communication and mobile/portable to mobile/portable communication. The PMR network may also include a repeater station. Base station to base station communication is not allowed. The PMR network may be used by organisations or corporate entities for their internal use only with no connectivity to a public PSTN or PLMN network. The PMR network owner shall be required to take out the appropriate Network Spectrum Licence, in addition to the PMR licence.

2.4 The PMR Network licence to be of a duration of 5 years;

2.5 Existing PMR licensees will not be required to change their network configurations. However, upon the coming into force of the new licensing procedure, existing network owners shall be governed by the new regime;

2.6 Licence fees payable to be in relation to spectrum usage and not to the number of devices, as is the case currently;

2.7 Once the above licensing procedure is in place, the ICT Authority would then undertake to grant approval to successful applicants within **2 weeks** of submission of application, provided that the applicants have submitted all the necessary information and clarifications requested by the ICT Authority for evaluation purposes and that the applicants have paid all outstanding licence fees.

(Q2.1) Please provide your comments on the proposed procedure described above;

(Q2.2) Please provide other suggestions if any;

(Q2.3) Please provide your comments on the proposed amendments to the Information and Communication Technologies (Amendment of Schedule) Regulations 2003;

(Q2.4) Please provide any other comment or proposal on this section;

3.0 Licensing Procedure for PMRTS devices and PMR446

- 3.1 The National Telecommunication Policy 2004 (NTP2004) already provides that class licences may be granted “for networks and services which do not require access to scarce resources and carry a limited number of rights or obligations” (Note: Class licensing is an effective and efficient means of spectrum management for services where a limited set of common frequencies are employed, and equipment is operated under a common set of conditions. A Class Licence sets out the conditions under which any person is permitted to operate. It is not issued to an individual user, and does not involve licence fees or licence conditions applicable to individuals);
- 3.2 In line with the NTP2004, therefore, this paper proposes to apply a class licensing regime to:-
- a. Duly type approved PMR apparatus that are to be used exclusively in a licensed PMRTS;
 - b. Duly type approved PMR 446 apparatus.
- 3.3 PMR units operating exclusively in a PMRTS and not requiring spot frequency assignment are proposed to be exempted from spectrum charges;
- 3.4 The Authority is of the view that the proposed licensing procedure for conventional PMR will give a new boost to trunking systems and enhance efficiency in the use of spectrum. Also, there shall be a restructuring of the application of licence fees for PMRTS service based on the fact that no licence fees shall be applicable in respect of PMR units operating exclusively in a PMRTS.
- 3.5 As regards spectrum charges, PMRTS operators will continue to be governed by the existing SPL1 licence;

3.6 PMR 446 with technical characteristics including but not limited to the following may be type approved to be marketed and used in Mauritius:-

- a) The PMR 446 is a **hand-portable, low power, short-range voice only** communication radio equipment for **indoor operation only**;
- b) The frequency of operation is 446 – 446.1 MHz;
- c) The PMR 446 radio equipment employs frequency modulation technique for voice communications;
- d) The frequencies specified in (b) above to be used on a non-interference, non-protected and shared-use basis;
- e) The maximum effective radiated power (e.r.p) of the radio equipment shall not exceed **500 mW**;
- f) The radio equipment shall only use **integral antenna** and it shall be designed to ensure that no antenna other than that furnished by the manufacturer shall be used with the equipment;
- g) Repeaters and amplifiers are not allowed to be used in conjunction with the radio equipment with a view to extending the range of coverage;
- h) The equipment should have been tested against, and shall strictly comply with, the requirements stipulated under the **ETSI EN 300 296**.

3.7 With a view to curtailing illegal entry of PMR 446 and other radio apparatus, a sensitization campaign is proposed to be put in place as follows, by the ICT Authority:-

- a) Publish leaflet to sensitize passengers on departure at the Seaport and Airport on the dangers of using radiocommunication apparatus which are not type approved to be used in Mauritius and on the legal implications of operating such radios without a proper licence;
- b) Affix posters at the Seaport and Airport so as to encourage passengers to declare, at the customs, any radio communication apparatus which they may have in their possession upon arrival;
- c) Involve the Customs Department and the Police so as to make them aware of the dangers of illegal entry of radio communication apparatus on the Mauritian territory;

(Q3.1) Would it be appropriate to allow PMR446 in Mauritius? If so, do you think that a class licensing regime should be applied to same?

(Q3.2) Do you think that class licensing is appropriate for PMR devices used exclusively in a PMRTS?

(Q3.3) Do you think that the measures described in 3.8 above are necessary?

(Q3.4) Please provide any other comment or proposal on this section;

4. Conclusion

In this consultation paper, the ICT Authority has proposed a new licensing procedure with regard to conventional Private Mobile Radio (PMR). This procedure is intended to replace the current apparatus licensing model for PMR by a spectrum licensing model. Also, devices that are to operate in a Public Mobile Trunking System are proposed to be governed by a class licence and to be exempted from spectrum fees. Finally, the PMR446 devices are proposed to be allowed in Mauritius under a class licensing regime, after having been duly type-approved by the Authority.

The proposed licensing regime is expected to give a boost to the PMR industry as it aims at simplifying and shortening the licensing procedure. The proposal is also premised on good principles of spectrum management, with a view to increasing the spectrum efficiency and optimising spectrum usage in the UHF and VHF bands.

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