

Option two – application process with ministry-specified user numbers

Type of Licence	Approved users have right to register radio or spectrum licences ¹
Permitted technologies	WiMAX CMAR? Point to point linking uses. Outside broadcast linking.
Number of licences	Ministry specifies maximum number of users per defined area. Users are eligible to register licences for transmitters.
Area of licences	Specified by Ministry Likely on a TLA basis
Eligibility criteria	Core eligibility criteria (see earlier para)
Technical and usage rules	Core technical and usage rules (see earlier para) Ministry also sets technology/interference specifications for licences. A document similar to PIB39 could be prepared. Parameters such as power, antennas and antenna height above the surrounding terrain could be specified to limit coverage to sensible boundaries. (Detailed coordination would be by users' approved radio engineers). Transmit sites would be recorded in the Register of Radio Frequencies by users.
Application process	Applications to MED. MED checks eligibility.
Application requirements	As above
Allocation process: initial	Where number of available user positions exceeds demand, all applicants approved. Where demand for licences exceeds supply: <ul style="list-style-type: none"> MED provides three months for applicants to rationalise. (MED makes contact information on applicants available to other applicants.) If demand still exceeds supply, MED approves users by drawing lots. (See comment below).
Allocation process: subsequent new entrants	First-come, first-served where spare use positions are available. Where no spare licences are available, applicant goes on to wait-list for freed-up licences.
Usage requirements	Requirement to make statutory declaration every two years that material investment has been made in base sites and equipment and that the licence is being used to provide services to users
Period of licence and renewals	Six years, with right of renewal two years prior to expiry subject to meeting usage requirements
Enforcement and policing	Normal RSM processes. Licensees would need to sign up to the Licence Interference Investigation (LII) system i.e. any interference is investigated by the licensees' agents.

Resource charge or fees	<p>Application fee to cover estimated MED costs. Significant up-front engineering required to specify number of approved users (area, technology, emissions). An estimate of total costs is \$50,000 - \$75,000.</p> <p>Should fees be charged on applications, or on award of licences, or both? (Preliminary suggestion is \$1000 per application plus \$2-3000 per licence awarded.)</p> <p>Annual fee to cover estimated MED costs. Preliminary estimate \$1000.</p> <p>Should a resource charge also apply?</p>
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Allocation of licences by lot where demand exceeds supply

126. Where demand for access exceeds supply (notwithstanding a three month period to allow applicants to rationalise their applications), it is proposed to allocate licences by drawing lots. Alternative allocation methods are by auction or through a “beauty contest” (in effect which applicants make the “best” proposals).

127. The reasons the Ministry favours drawing lots (rather than auction or beauty contest) for the MSPs where demand exceeds supply are as follows:

- It is administratively simple and quick (in particular compared to beauty contests);
- Appeals are avoided (a particular issue with beauty contests);
- It provides strong incentives for applicants to seek to rationalise their particular, applicants have no incentives to hold-out for a potentially better outcome, in contrast to the incentives to hold-out if they expected to win an auction or beauty contest).

Engineering issues

128. An issue under this option will be the extent to which the Ministry specifies the technical parameters of use rights or site licences for each area (likely to be TLA or multiples of TLA areas).

129. An option could be for the Ministry to use a “reference network” concept where a uniform lattice based on expected or typical parameters of technology (power, bandwidth etc) but not topography, is used to determine the permitted number of eligible entrants to the park, and leave it to the actual entrants to coordinate or negotiate how they will deploy their networks or require the users to implement the network design.

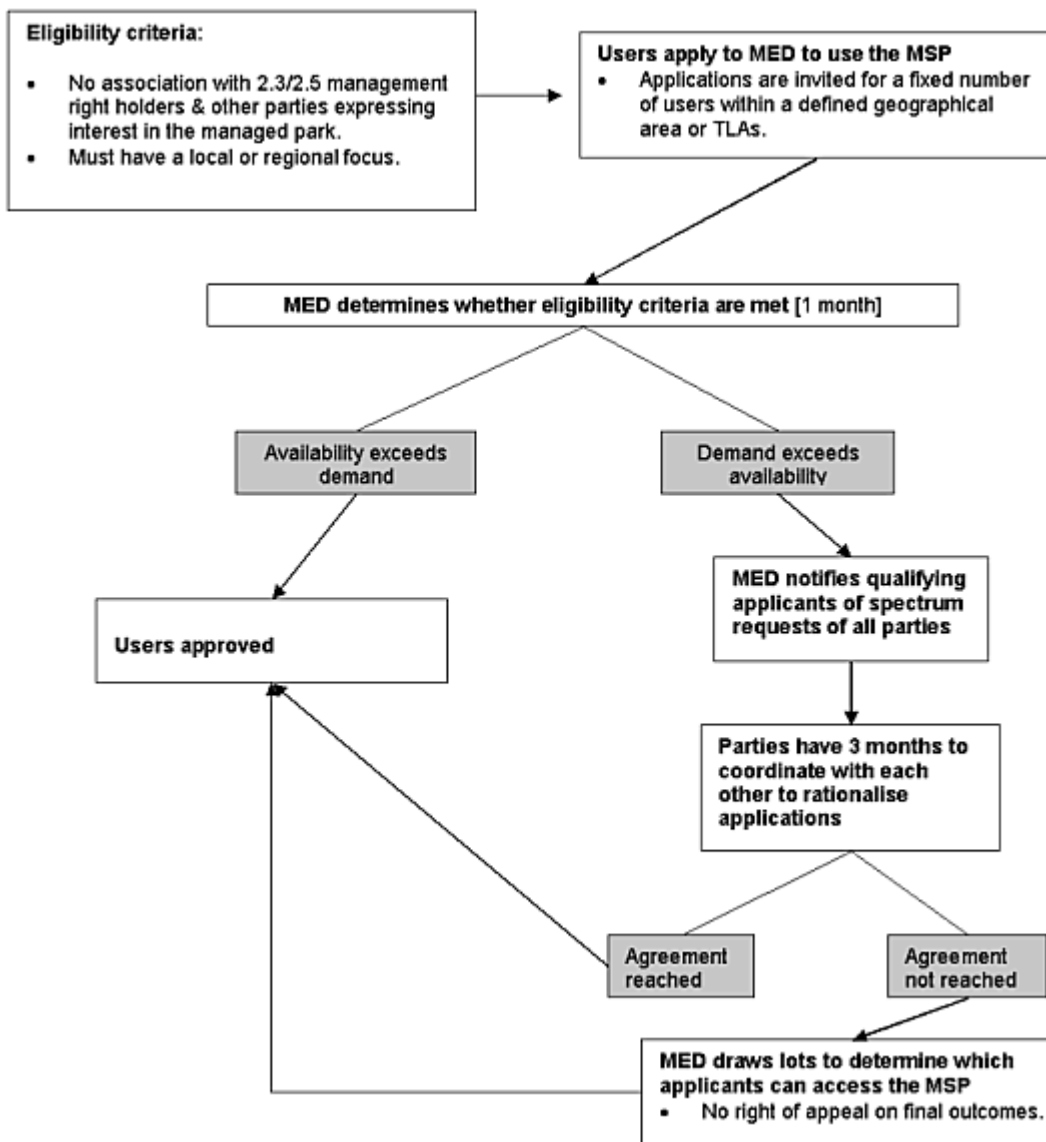
128. An issue would arise if one entrant sought to deploy significantly beyond the scope of a “reference network” so as to effectively exclude others (giving rise to calls for Ministry intervention). Possibly this could be managed by requiring entrants to agree prior to actually creating the licence for the radio equipment. No agreement would mean no licence and no service.

Advantages of option 2

- Greater assurance of quality of service.
- Less weight on user-coordination to manage quality of service.
- Administratively simpler than option 3.

Disadvantages of option 2

- Does not allow for flexible use and innovation.
- May be difficulty with defining areas (rural/urban) for engineering planning purposes.
- Much more resource intensive for the Ministry than other options, in terms of initial engineering and design and administration.
- More expensive costs, fees and resource charges than option 1.
- Allocation process may not maximise sharing and use of the radio spectrum (compared to options 1 and 3).
- Allocation by lot (where required) may be seen as a matter of chance (and therefore inferior to rational processes such as auction or beauty contest).
- Some scope for hoarding of licences (because of delays in enforcing any “use or lose” requirements).



¹ An alternative may to grant each user a licence that requires coordination before use (similar to current 2.5 GHz TVOB licence) or to approve the users to transmit under a Crown-owned licence or licences, subject to identifying sites.
