

August 2014

Invitation to Comment
on the
Draft IMT Roadmap



"Annexure A"

1 Cover Sheet

Title

Given Name(s)

Surname

Representing (self/organisation)

Name of organisation (if applicable)

Contact telephone number

Contact email address

1.1 Confidentiality

See page 2 above.

1.2 Declaration

I confirm that the information supplied on the cover sheet may be incorporated into a formal consultation response; it can be published by ICASA, unless otherwise specified on this cover sheet, and I authorise ICASA to make use of the information in this response to meet its legal requirements.

Signed



at JOHANNESBURG

Date

16 SEPTEMBER 2014

2 Invitation to Comment

The Authority invites written comment from relevant stakeholders on the draft IMT Roadmap and Feasibility studies for IMT in 450-470 MHz and 880-960 MHz.

2.1 IMT450

2.1.1 The Authority invites industry views on IMT usage in general in 450-470MHz

Transnet acknowledges that the 450 MHz band was identified for IMT technologies and one of the main objectives for the SA Connect Broadband policy is broadband connectivity for all. However, Transnet believes that due to the limited bandwidth available in the 450 MHz band and the fact that all other IMT bands are occupied and earmarked for commercial operators to fulfill the SA Connect Broadband policy objectives, the Authority should consider making the 450 MHz band at least available for utilities, State Owned Companies. Transnet also supports the TDD configuration in the 450 MHz band with limited bandwidth for unserved areas, this could be shared with retail operators who wish to provide services in those areas. Where there is a railway line adjacent to unserved areas, Transnet proposes to make a portion of its bandwidth (IMT450 MHz) available to retail operators who wish to provide services in those areas. The advantage for Transnet is that the basic network coverage is already present and closer to some of those unserved areas, it will merely be a question of extending the reach of Transnet network by retail operators to those unserved areas.

2.1.2 The Authority invites industry views on IMT paired spectrum usage for PPDR.

Due to safety critical applications within the rail environment, Transnet is not in a position to make its network available for PPDR even on a temporary basis. Transnet therefore proposes that the Authority assigns the 387/397 MHz portion of the band for PPDR or any other available portion around the 400 MHz band.

2.1.3 The Authority invites industry views on IMT paired spectrum usage for the SA connect initiative.

Transnet accepts that a combination of lower bands e.g. 700/800 MHz and higher bands e.g. 2300/2600MHz could help extend broadband reach to rural under-served areas and higher bands will assist with capacity especially in those densely populated areas. However, reaching 100% coverage will involve innovation from government's side. This might involve combining all available types of technologies (fixed (cable, fibre), mobile (cellular type) and satellite), different networks from all South African licensees i.e. big and small operators including government entities instead of only looking at large commercial operators. It is for this reason that Transnet proposes that some IMT spectrum be set aside for operators who have no access to IMT spectrum.

2.1.4 The Authority invites industry views on IMT unpaired spectrum usage for M2M and smart energy/grid applications in South Africa.

Transnet supports the proposal for IMT unpaired spectrum usage, this is very much in line with Transnet's current and future applications. The sharing of the 450 MHz band might even be possible between rail applications and smart grid applications.

2.1.5 The Authority invites industry views on the migration of incumbents (Transnet, SAA, Telkom, etc.) out of the 450-470 MHz band.

Transnet is concerned that the Authority proposes migration out of the 450 MHz band without clear understanding of Transnet's current operations and future requirements and therefore no understanding of the kind of future technology that will suite the environment. It is Transnet's concern therefore that the Authority is proposing this migration and as a result of same, an untested and possibly unsuitable proposed destination band for our environment.

2.1.6 The Authority invites industry views on the migration time line.

Voice over LTE-R according to Radiosource Media Group will only be released in the third quarter of 2016. It is therefore Transnet's view that it is unfair for the Authority to expect entities such as Transnet with mission-critical applications to start migration within two to five years from date of publication in the IMT roadmap Government Gazette. Other simpler services might however be considered for migration sooner to make the band available for broadband type applications in the medium to longer term.

2.1.7 The Authority invites industry views on destination bands

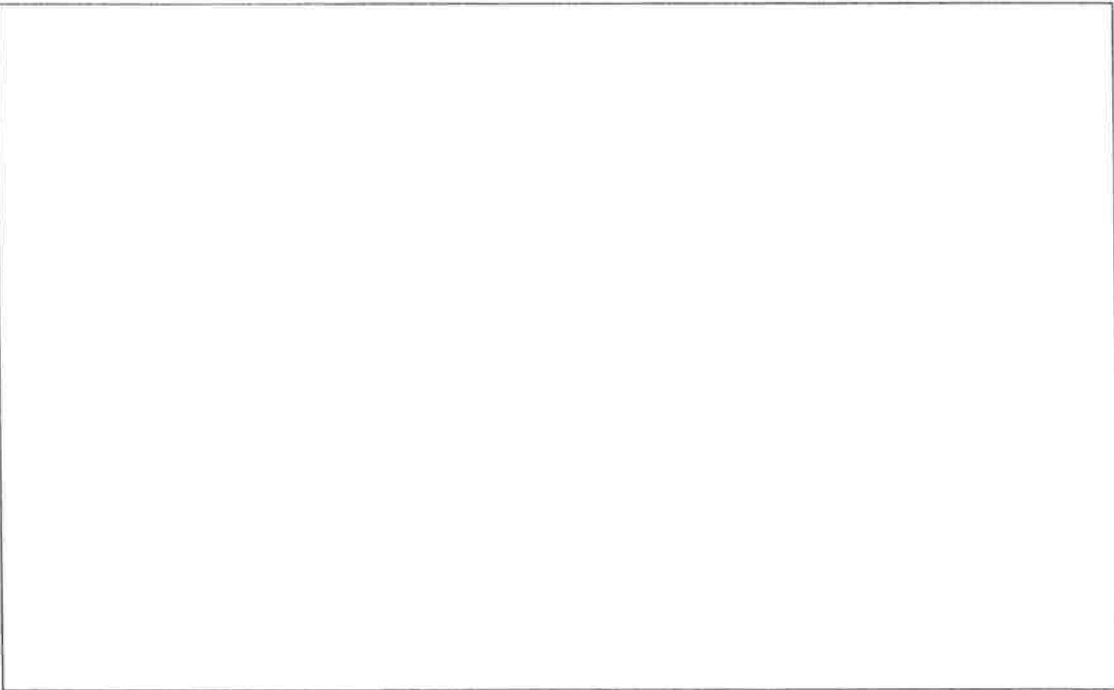
Transnet believes destination bands for our environment can only be determined based on the chosen future technology that meets our growing data needs but that will also accommodate voice as it is one of the most critical applications in a rail environment for train authorisations.

2.1.8 The Authority invites industry to give any other inputs that must be taken into consideration when finalising plans for the IMT 450 band

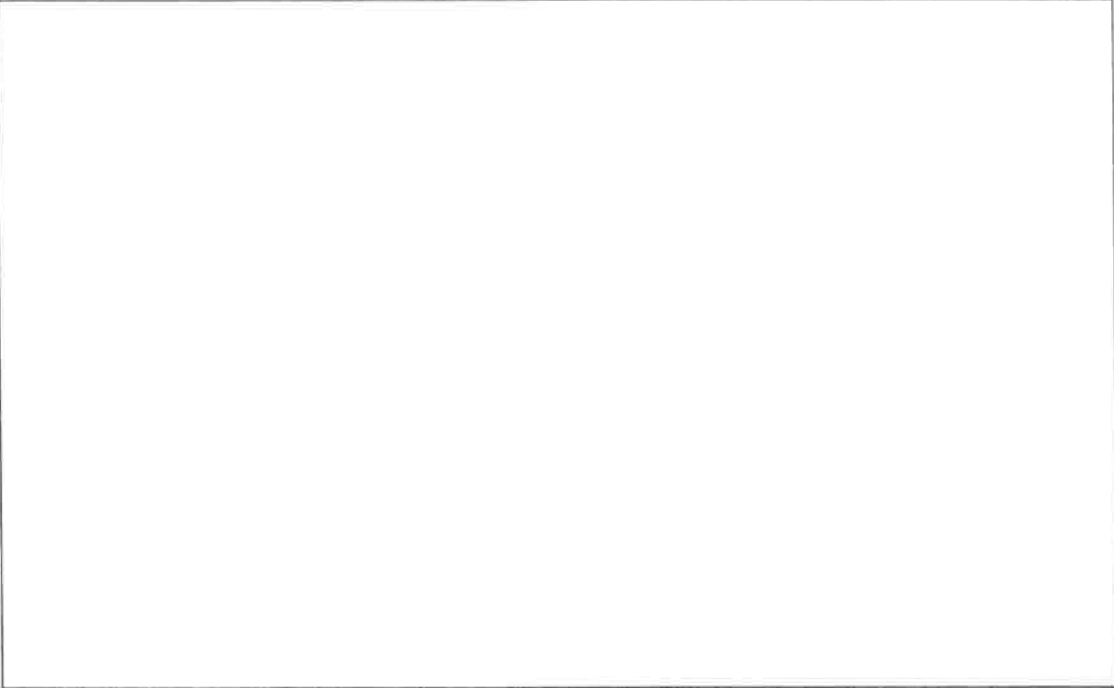
Making a minimum of 5MHz TDD for entities such as Transnet and considering sharing the 15 MHz TDD with other entities for a smart grid etc.

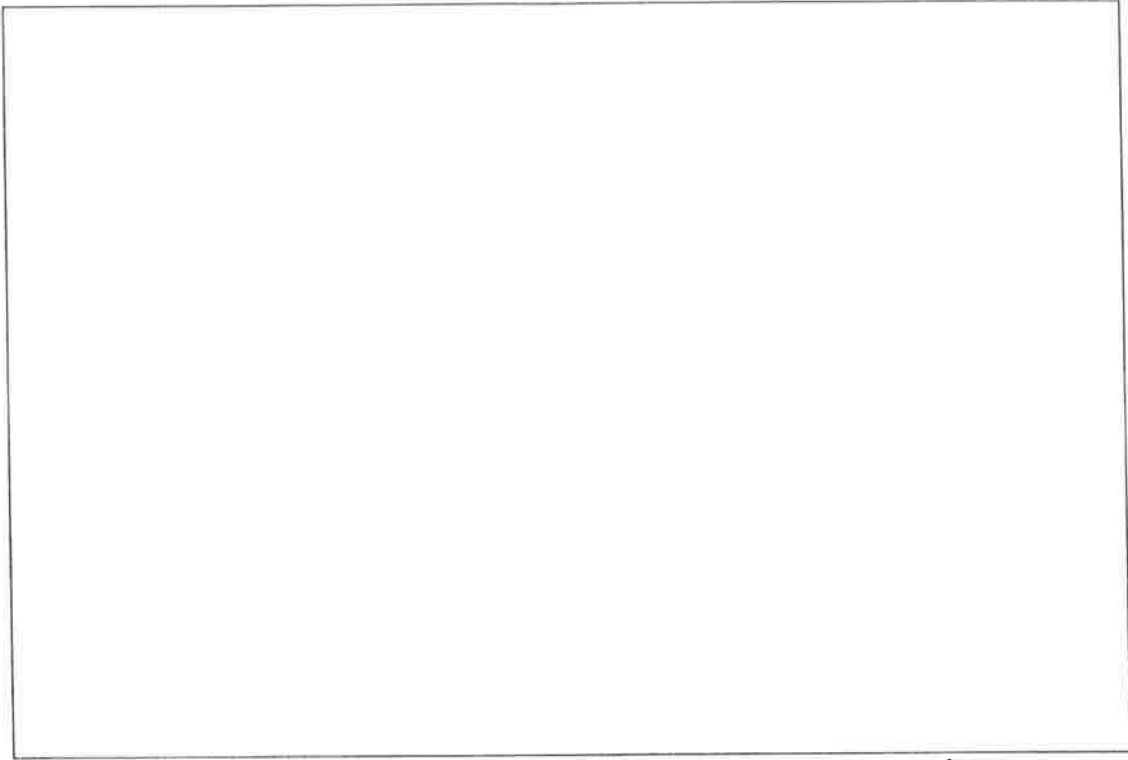
2.2 IMT700

2.2.1 The Authority invites industry views on Option 1 (ITU Region 3).

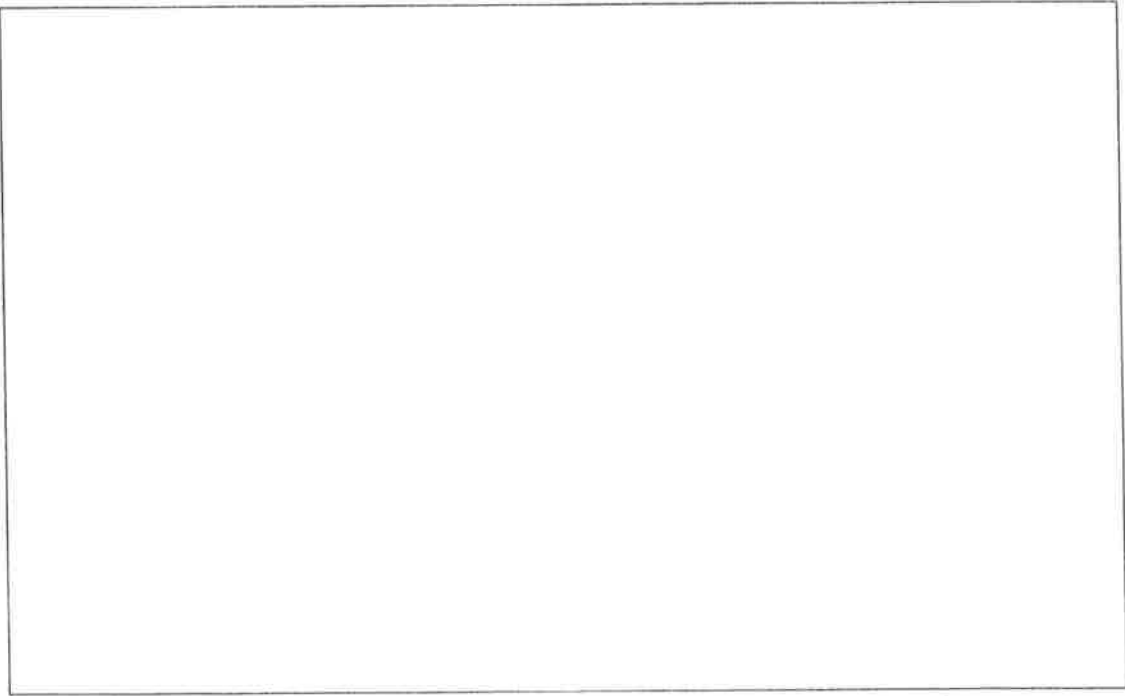


2.2.2 The Authority invites industry views on Option 2 (ITU Region 1).

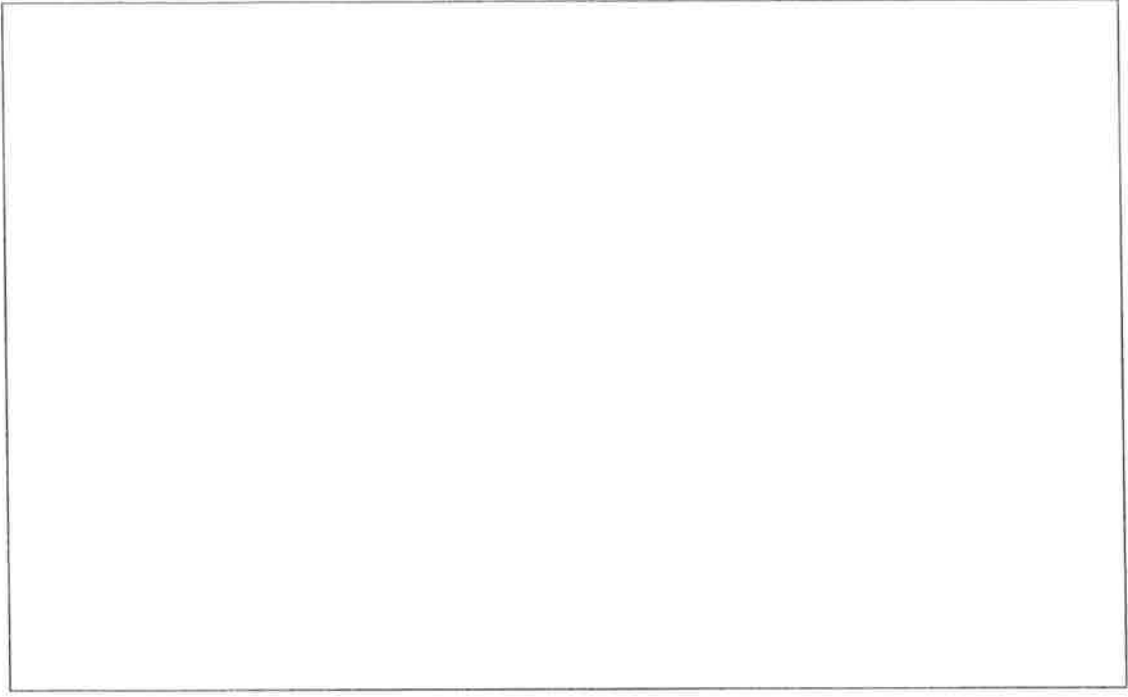




2.2.4 The Authority invites industry views on 2x3 MHz IMT band of ITU Region 1 solution.

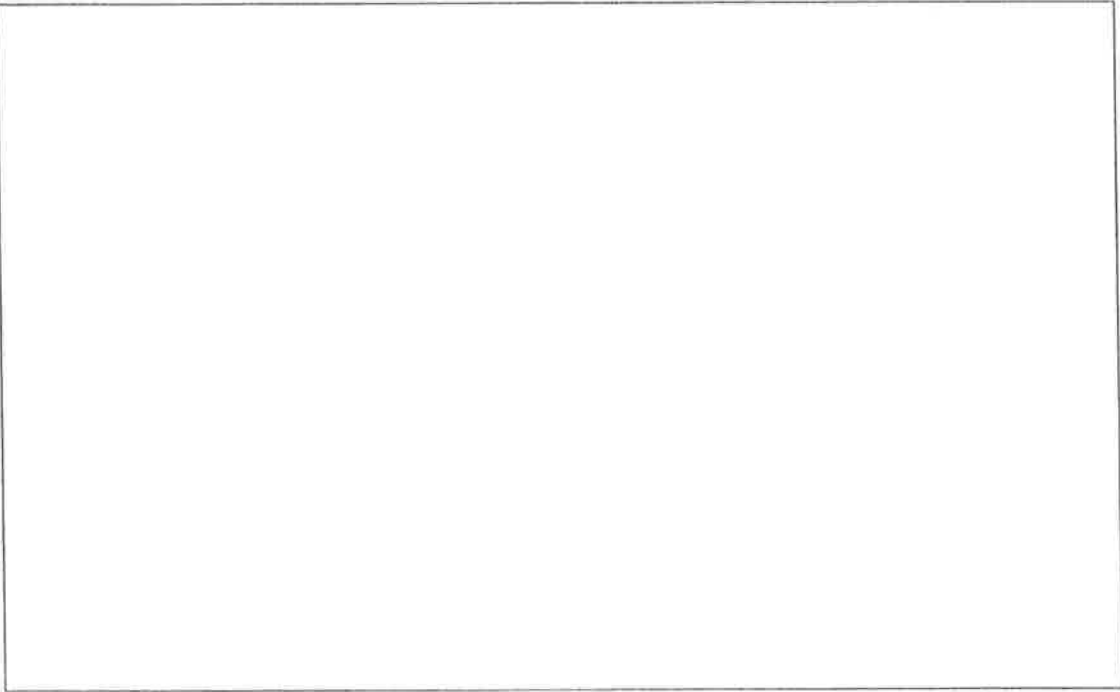


2.2.3 The Authority invites industry views on Option 3 (ITU Region 1).



2.3.1 The Authority invites industry views on IMT unpaired spectrum in the coverage band of 750 MHz.

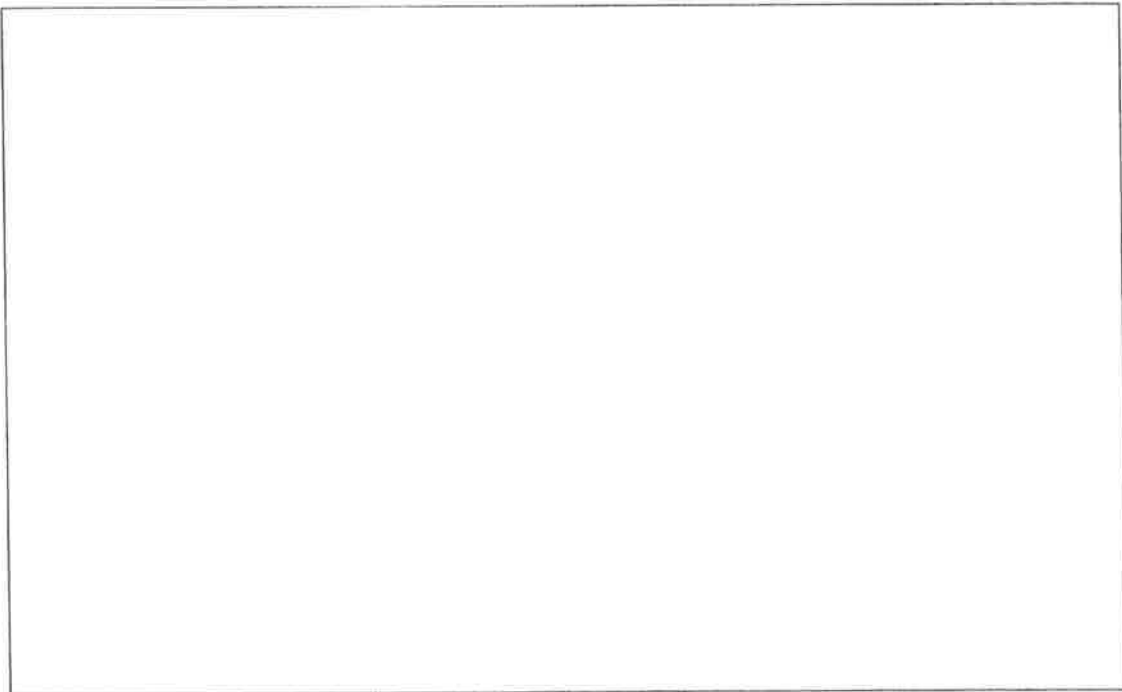
2.3 IMT750



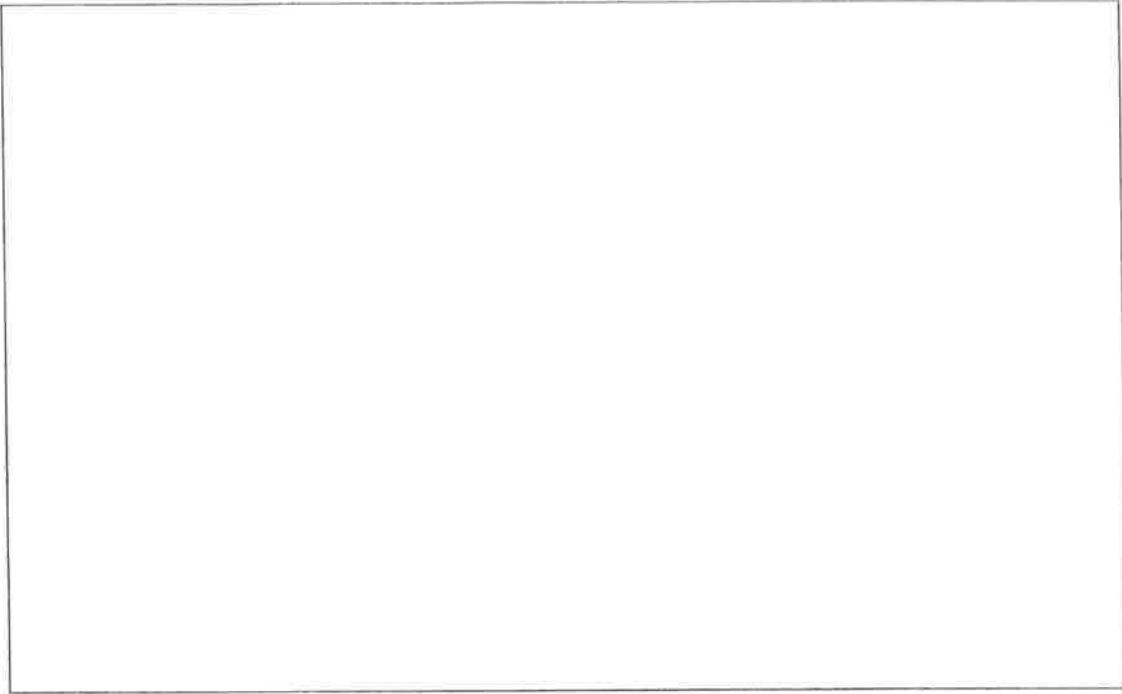
2.2.5 The Authority invites industry views on other ITU Region 1 based suggestions.

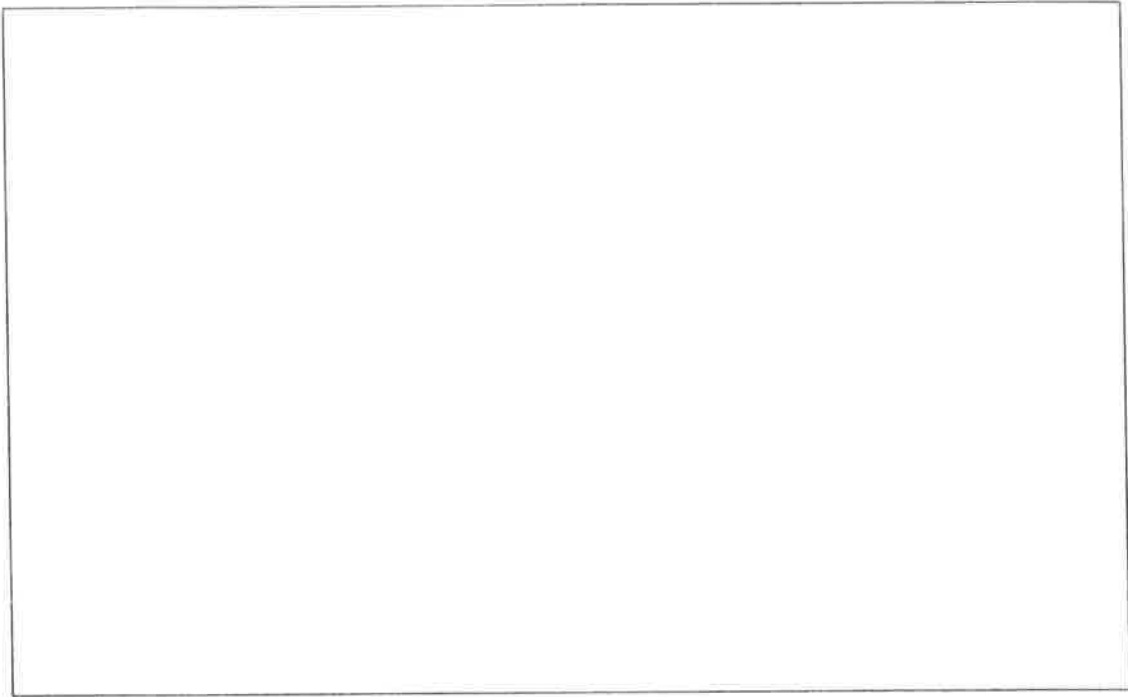
2.4 IMT800

2.4.1 The Authority invites industry views on Option 1 (ITU Region 3).



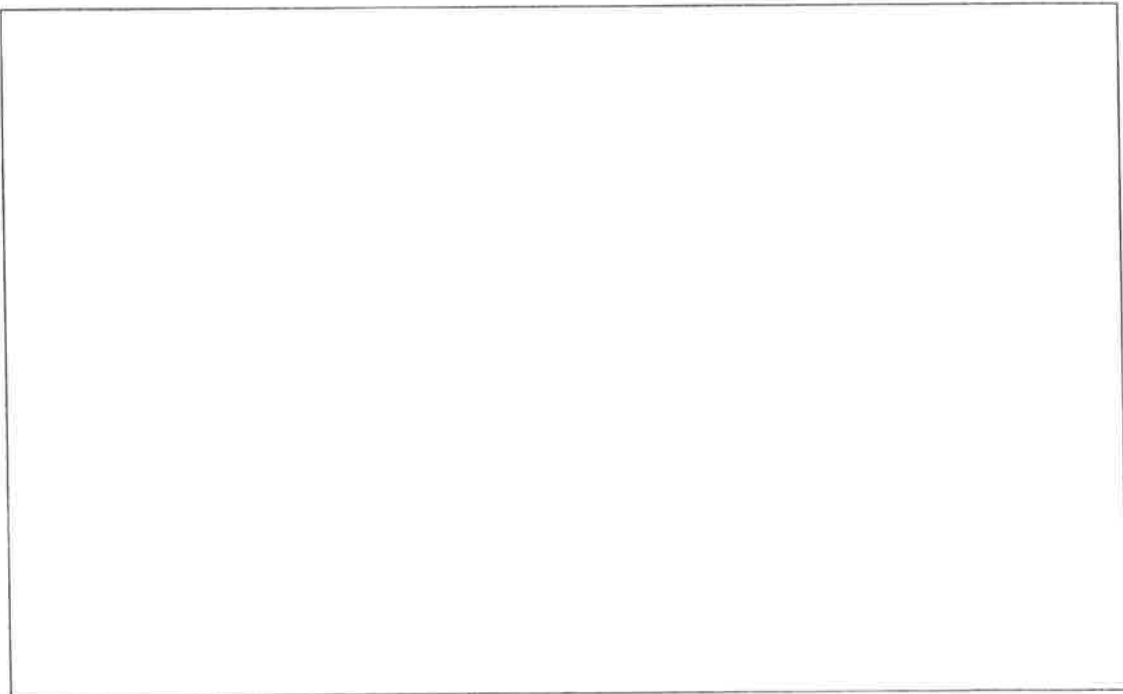
2.4.2 The Authority invites industry views on the 2x3 MHz IMT band of Option 1 (ITU Region 3).





2.5.1 The Authority invites industry views on the migration of incumbents (Neotel, etc.) out of the band.

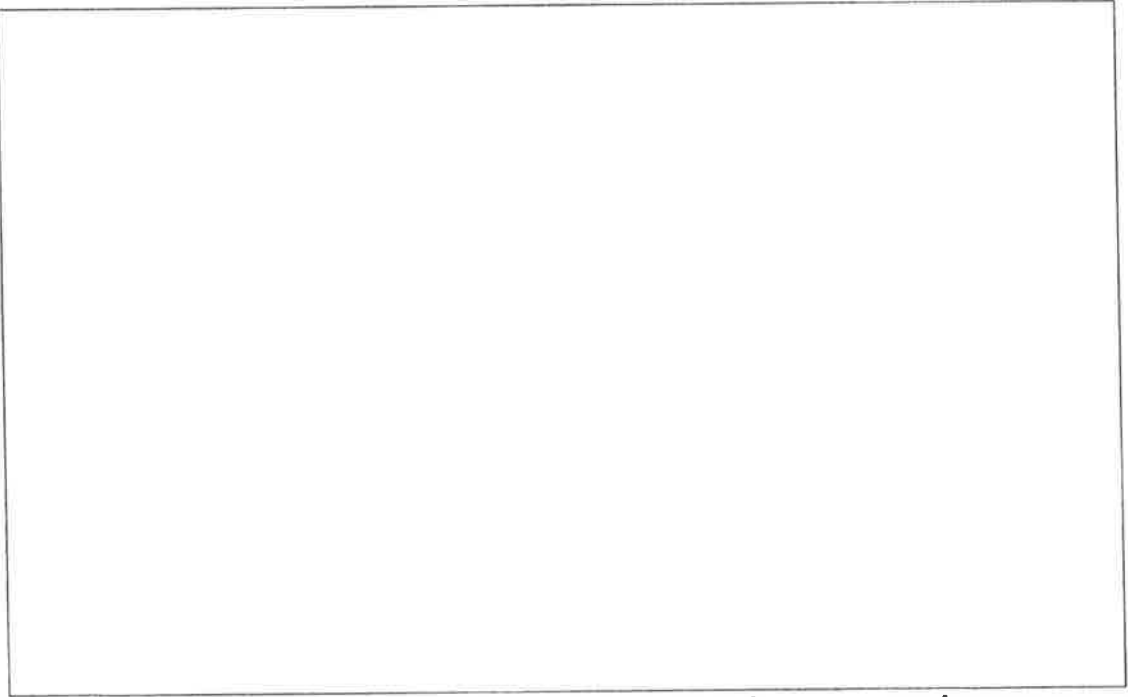
2.5 IMT850



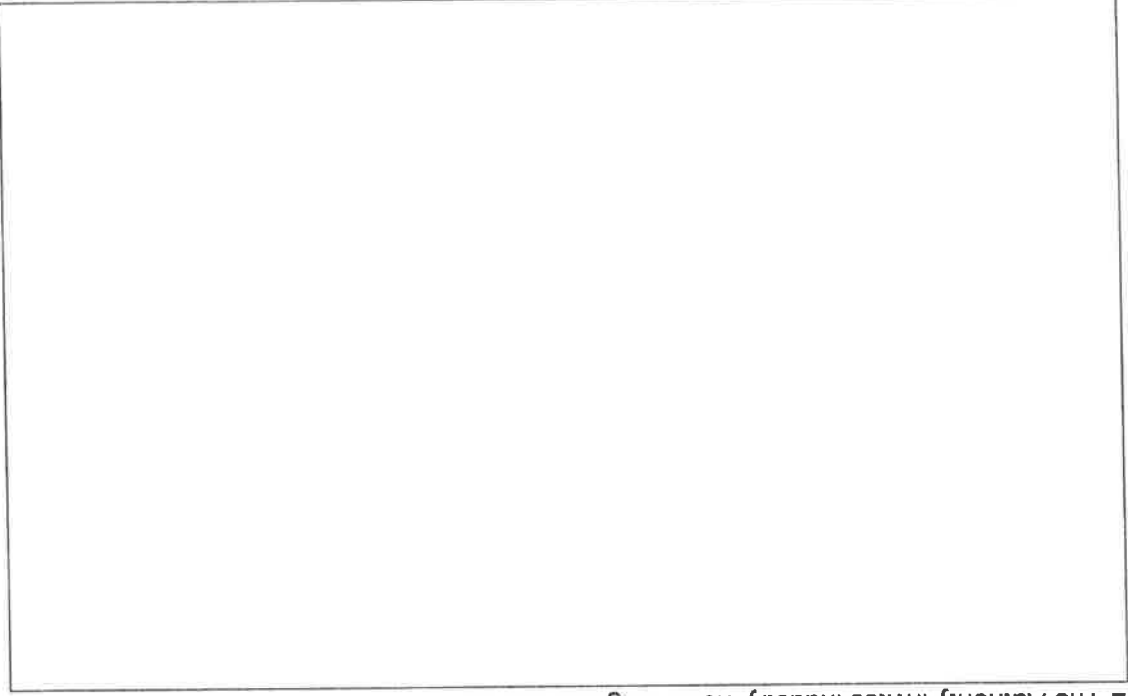
2.4.3 The Authority invites industry views on Option 2 and 3 (ITU Region 1)

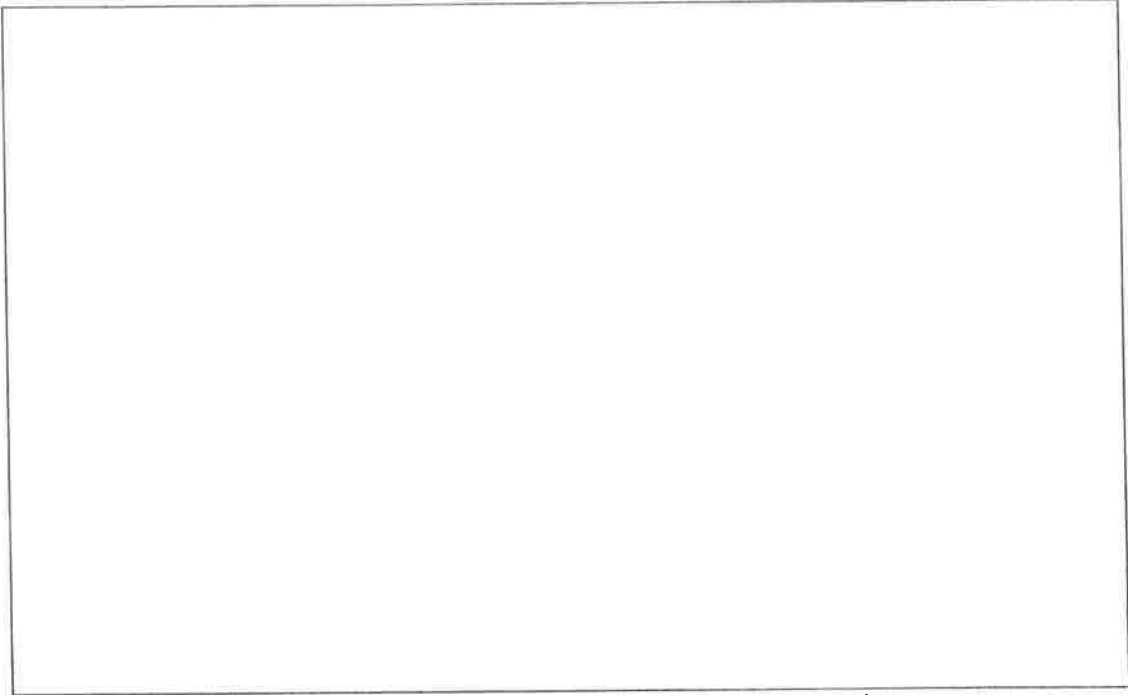
2.6 GSM900 spectrum consolidation

2.6.1 The Authority invites industry views on spectrum consolidation.

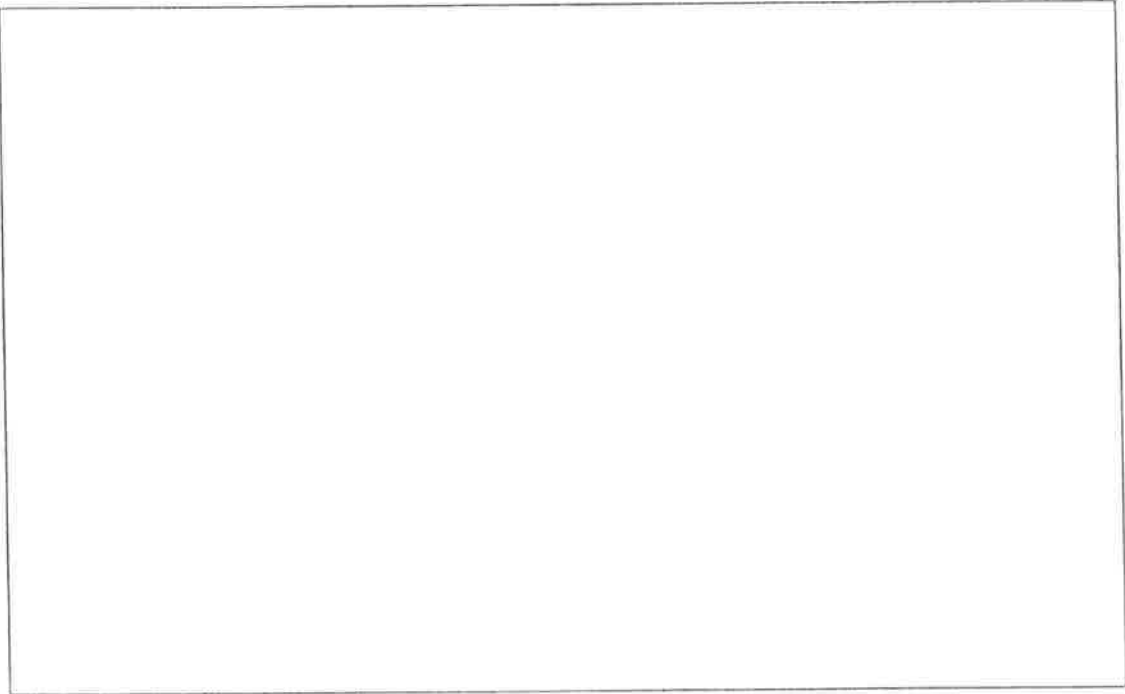


2.6.2 The Authority invites industry views on guard bands.

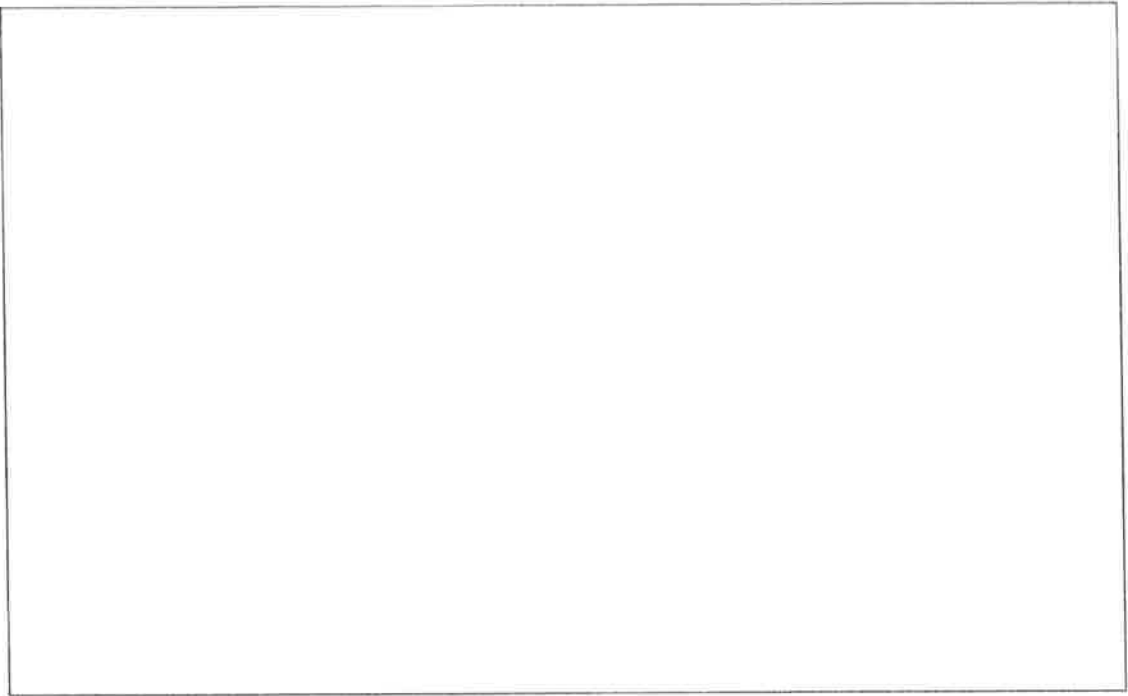




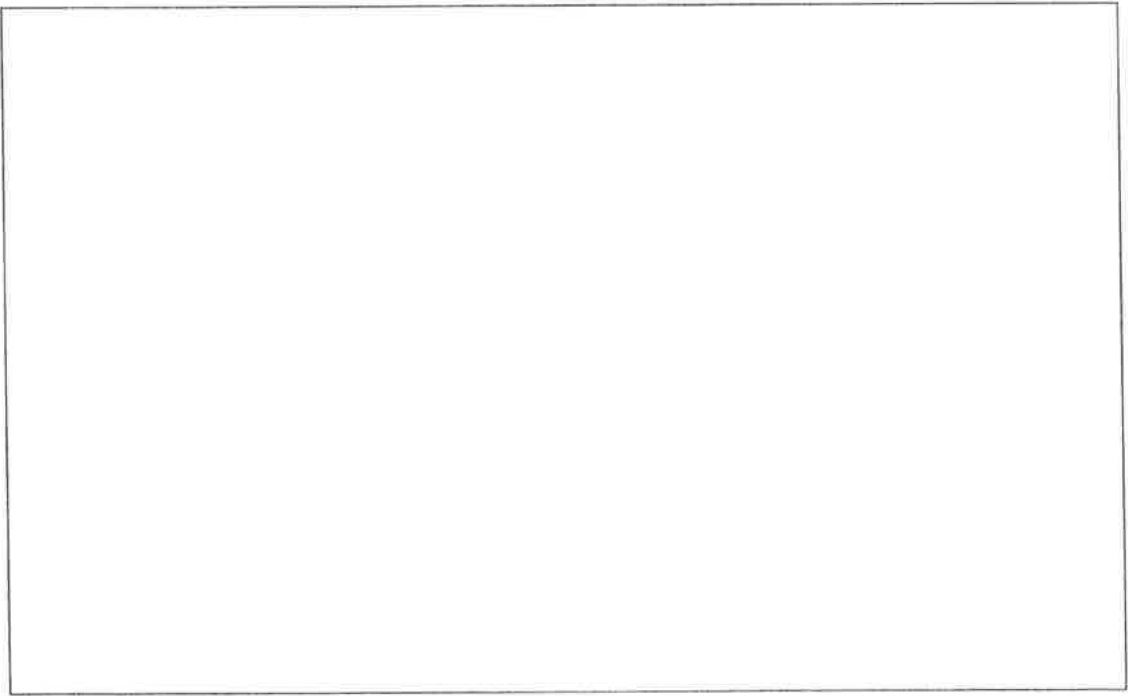
2.6.4 The Authority invites industry views on demand for IMT migration of 5 MHz taking into consideration the spectrum for IMT available in the 700 and 800 MHz bands.



2.6.3 The Authority invites industry views on the time line of spectrum consolidation, i.e. when it should be done.



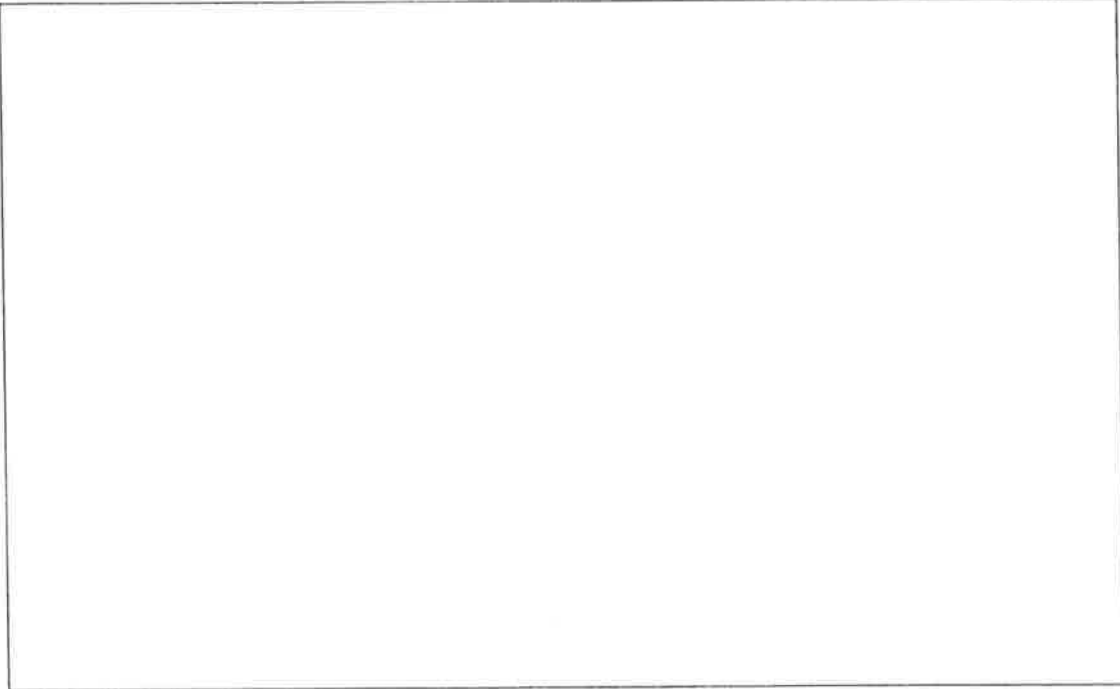
2.6.6 The Authority invites industry views on demand for IMT migration of 10 MHz, taking into consideration the new spectrum for IMT in 700 MHz and 800 MHz.



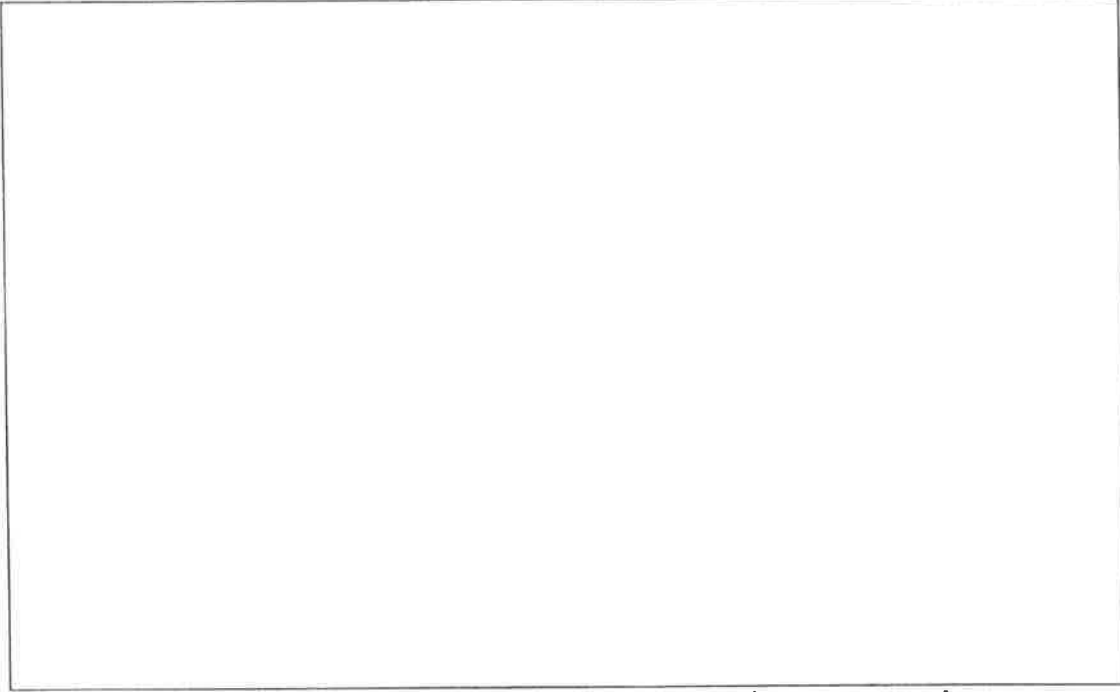
2.6.5 The Authority invites industry views on need-based differentiated spectrum assignments in the 880-915 MHz (paired with 935-960 MHz).

2.7 IMT2300 unpaired spectrum TDD

2.7.1 The Authority invites industry views on usage of 2380-2400 MHz.

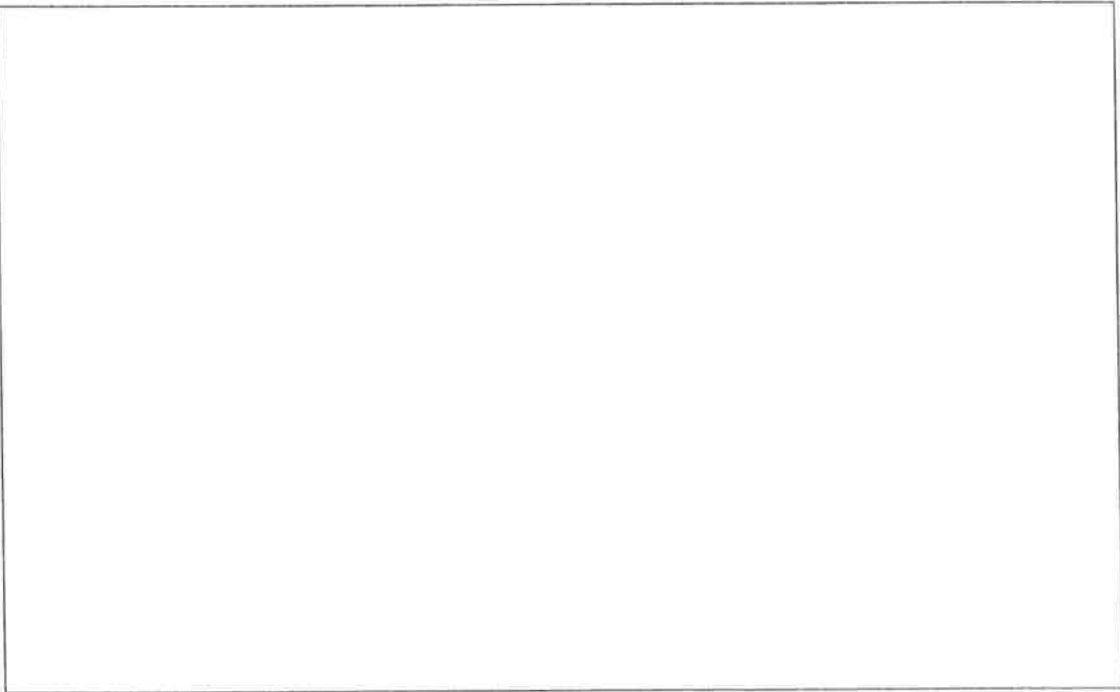


2.7.2 The Authority invites industry views on usage of 2290-2300 MHz for IMT.

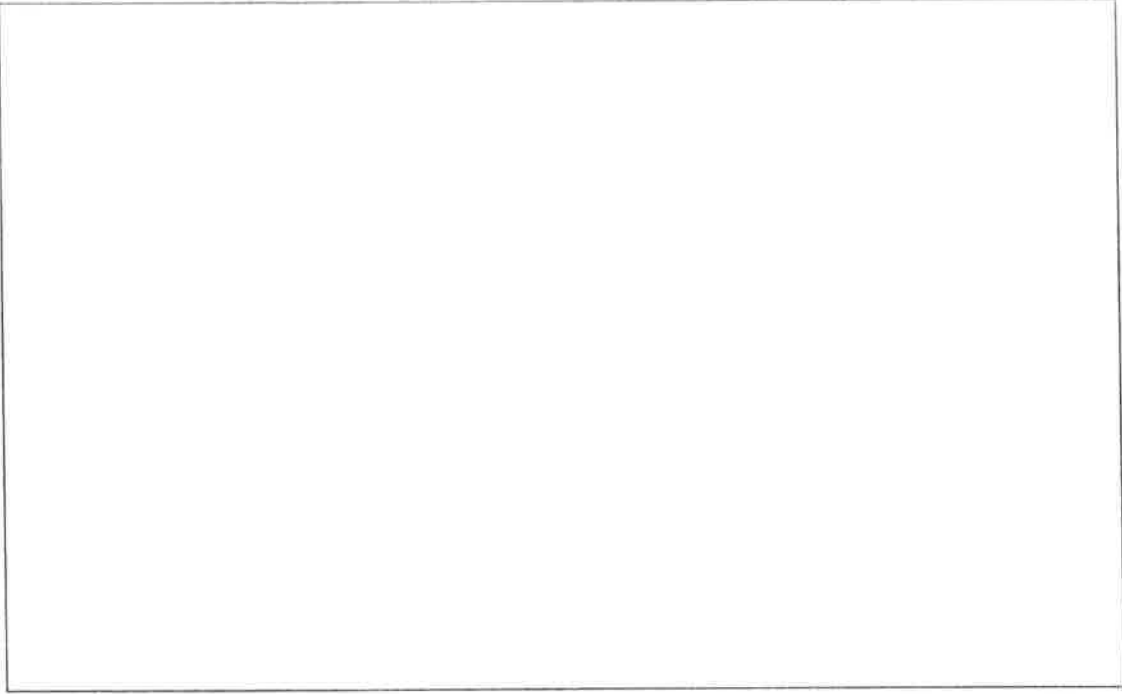


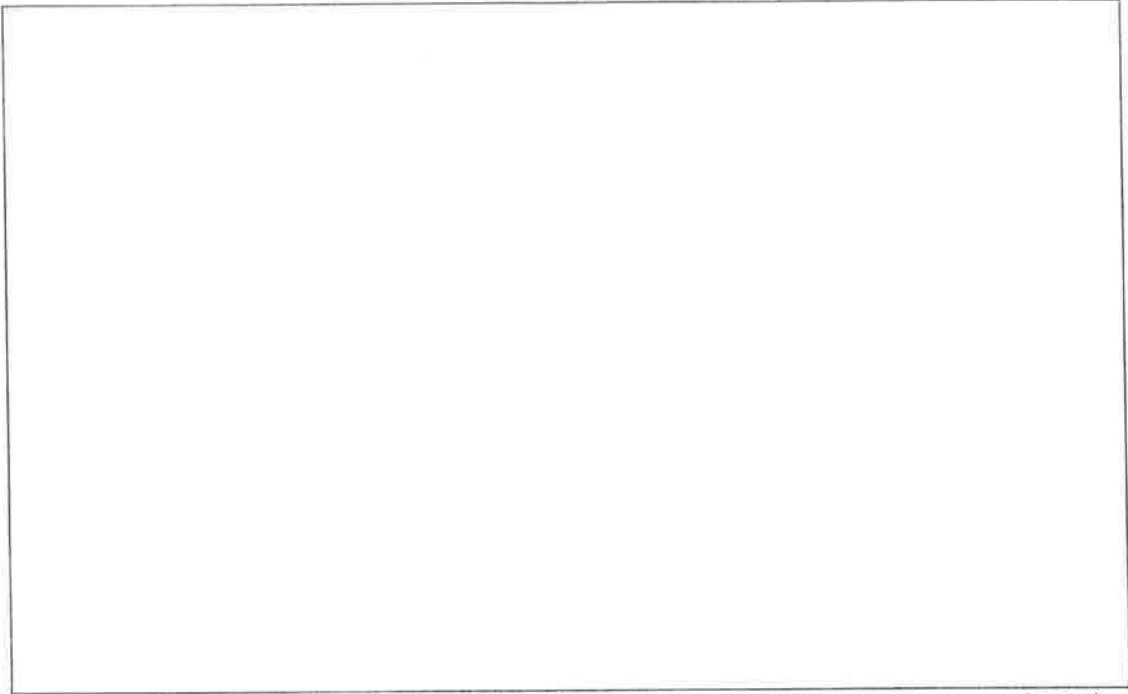
2.8 IMT2600 paired FDD spectrum

2.8.1 The Authority invites industry views on demand in the IMT2600 FDD band

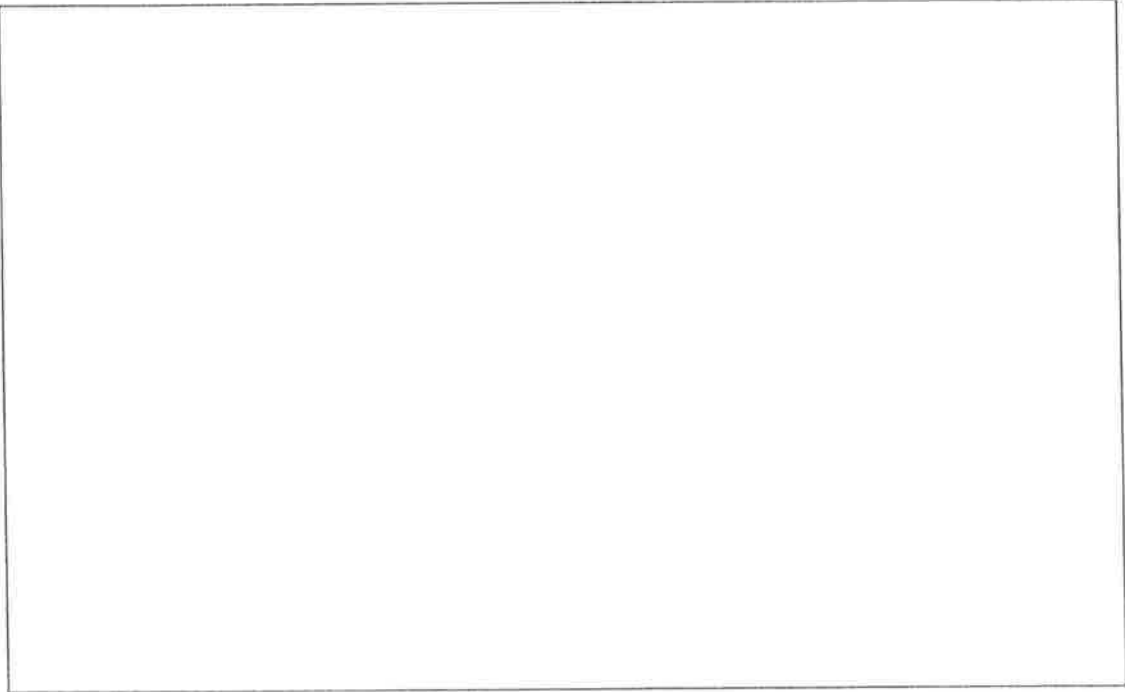


2.8.2 The Authority invites industry views on the migration of the incumbent (WBS), into 2380-2400MHZ.





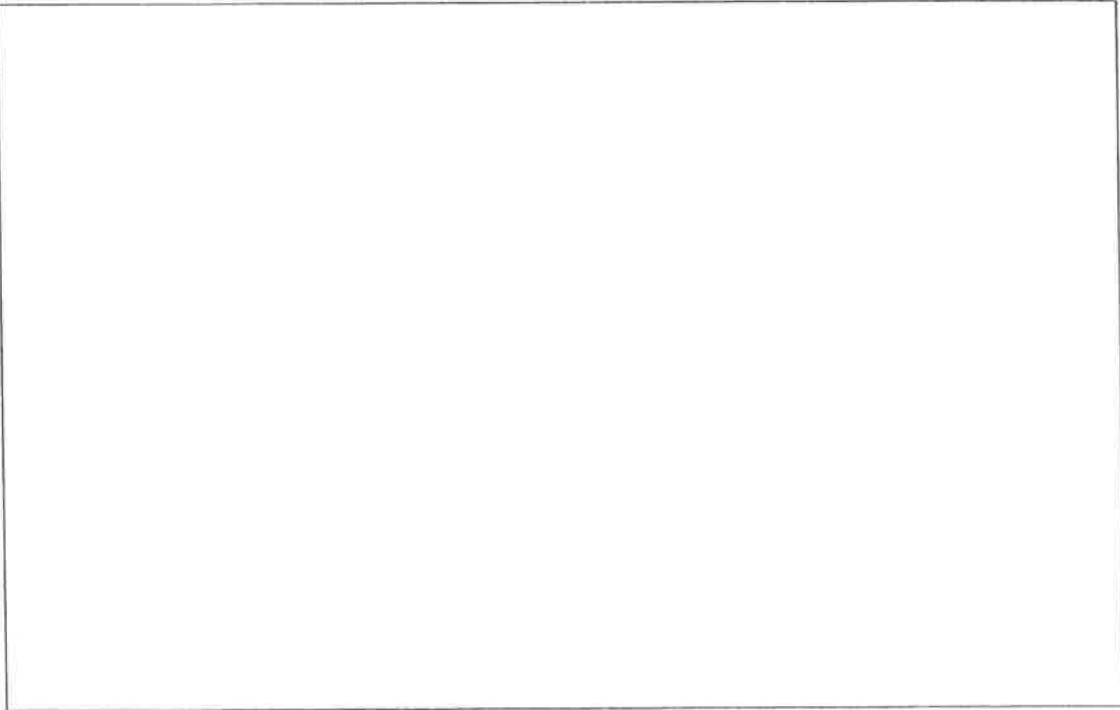
2.8.4 The Authority invites industry views on alternative destination bands for the incumbent (WBS).



2.8.3 The Authority invites industry views in-band migration of the incumbent (WBS), into IMT2600 unpaired spectrum.

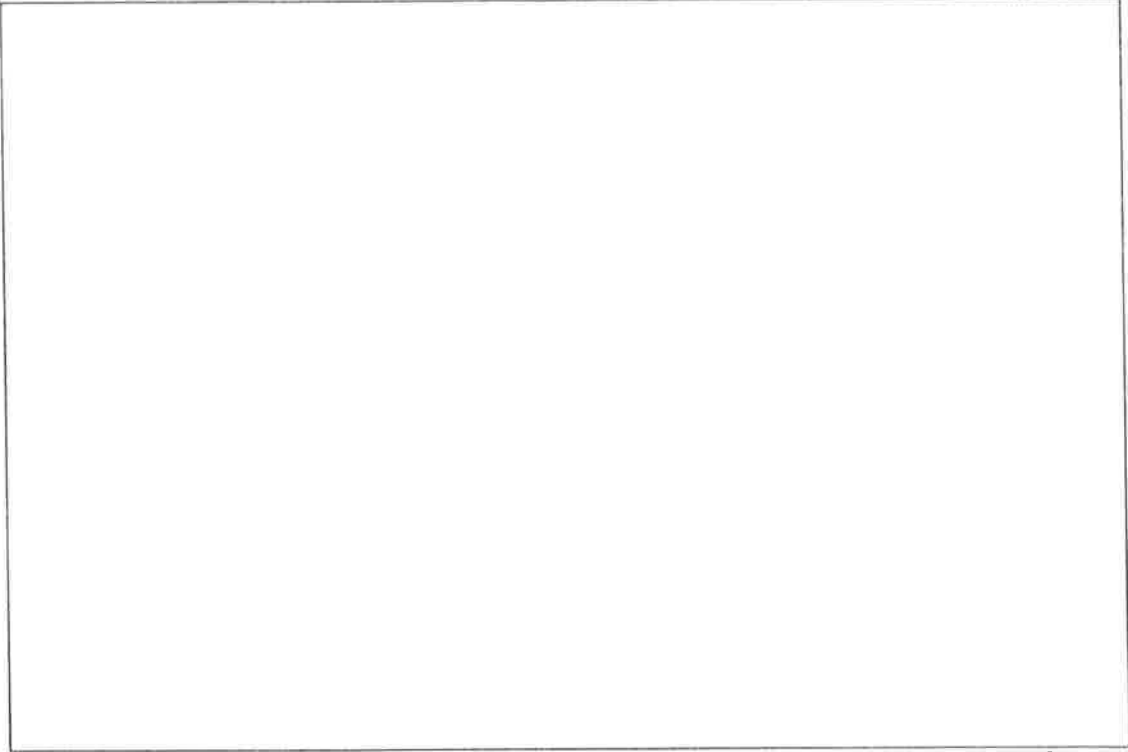
2.9 IMT2600 unpaired TDD spectrum

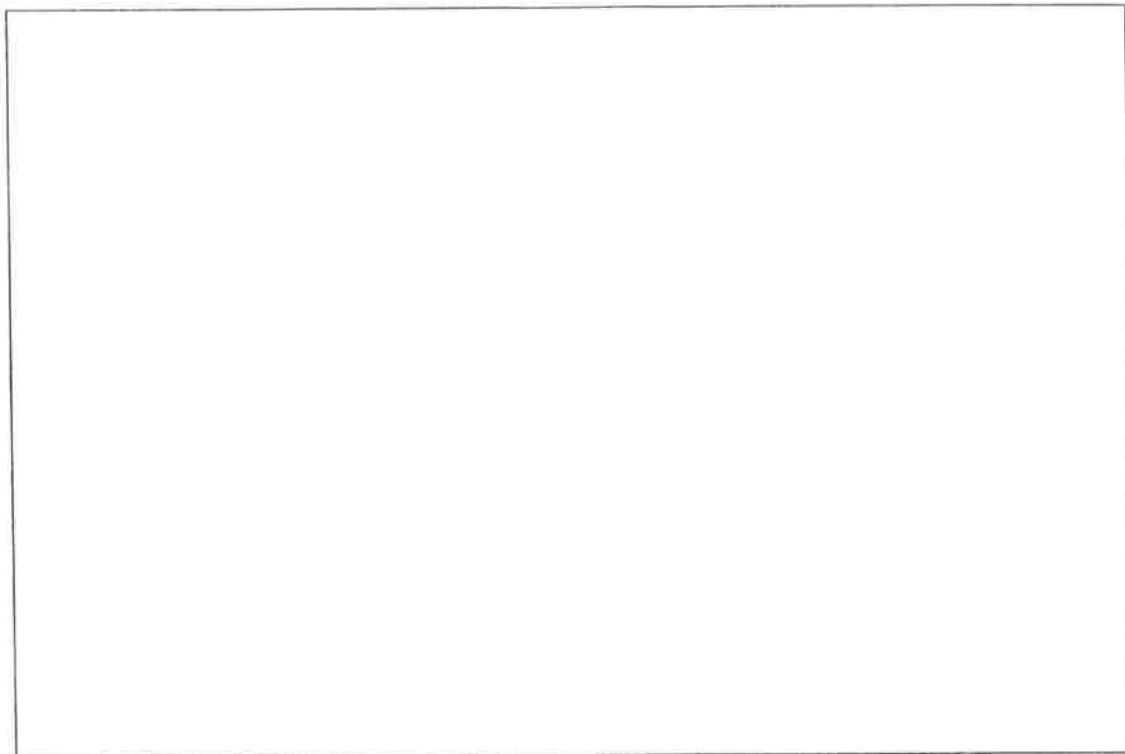
2.9.1 The Authority invites industry views on demand in IMT2600 TDD band



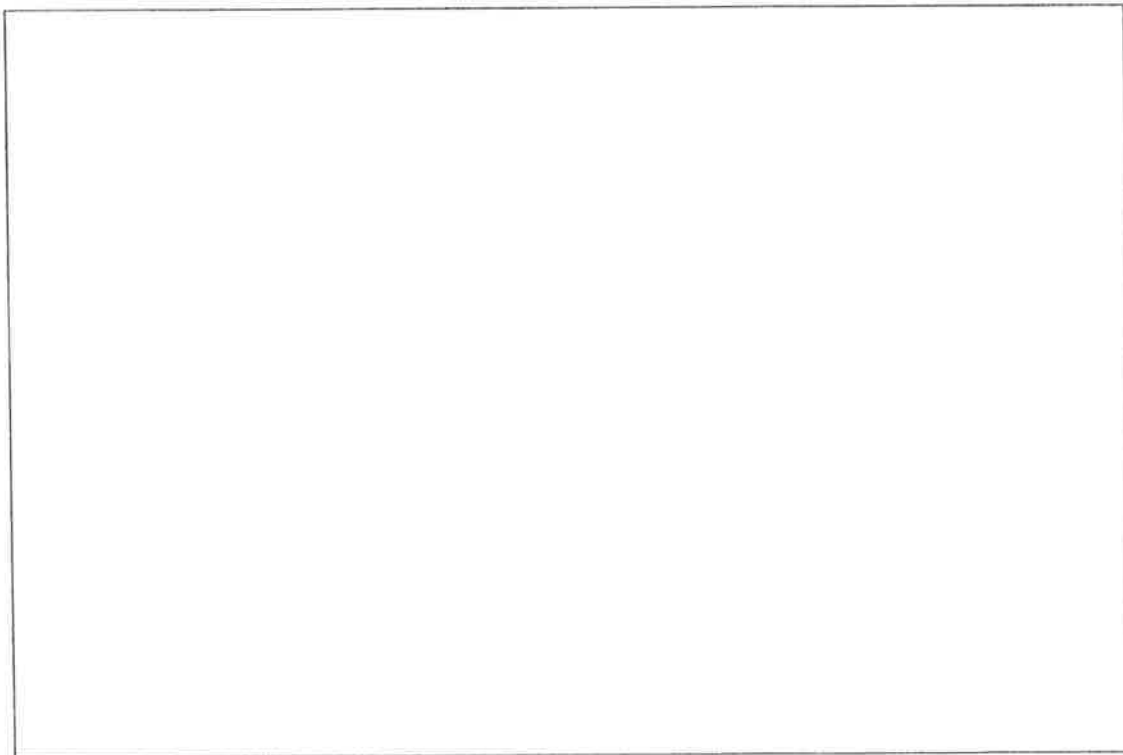
2.10 IMT3500 unpaired TDD spectrum

2.10.1 The Authority invites industry views on migration out of 3400-3600 MHz from FDD usage to TDD.

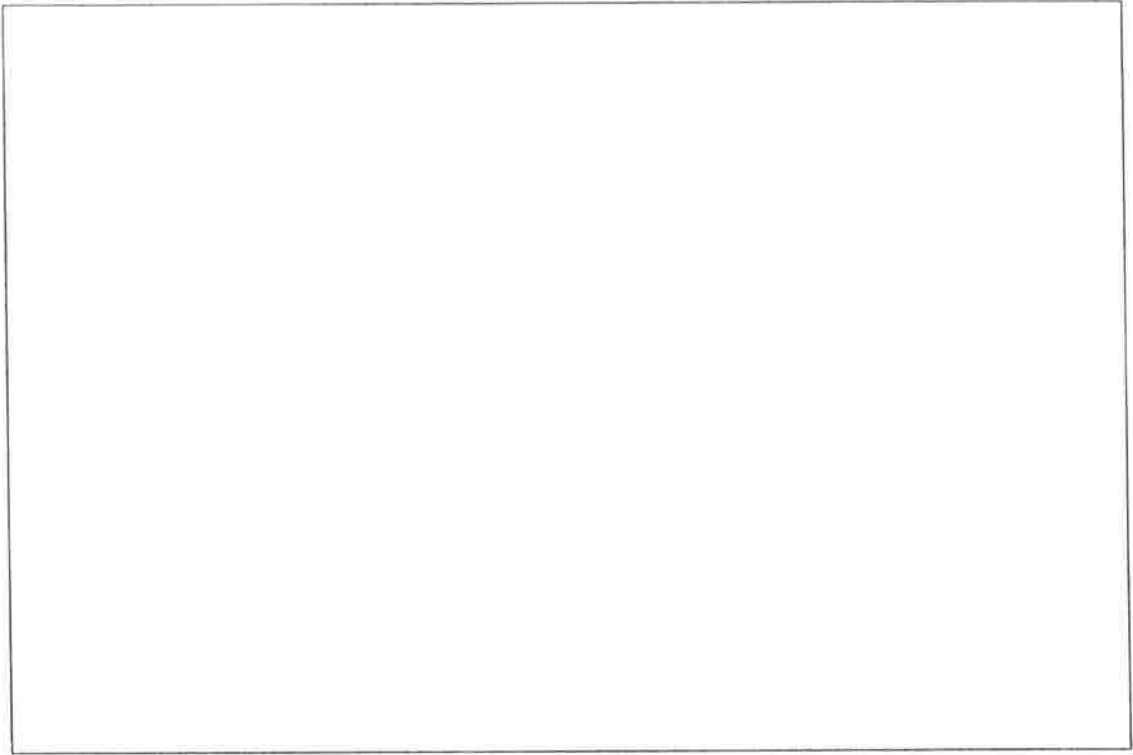




2.10.3 The Authority invites industry views on interest in TDD downlink focused spectrum.



2.10.2 The Authority invites industry views on status and time line.



2.10.5 The Authority invites industry views on interest in the introduction of a Managed Spectrum Park.

The only instance where we download information is when communal information is available, such as global firmware updates and global field site polling.

We deploy upload rather than download functionality on our field sites due to the fact that sites are hibernated to save energy, the result is, unless the field site is awake it is not present on the network or reachable from the server. It only makes sense then that information is uploaded from a client to a server. This approach is also followed for the following reason: Locomotives constantly (due to the non-stationary nature) migrate between access points, thus the information is uploaded to a server rather than downloaded from a server because the routing information of the locomotive constantly changes.

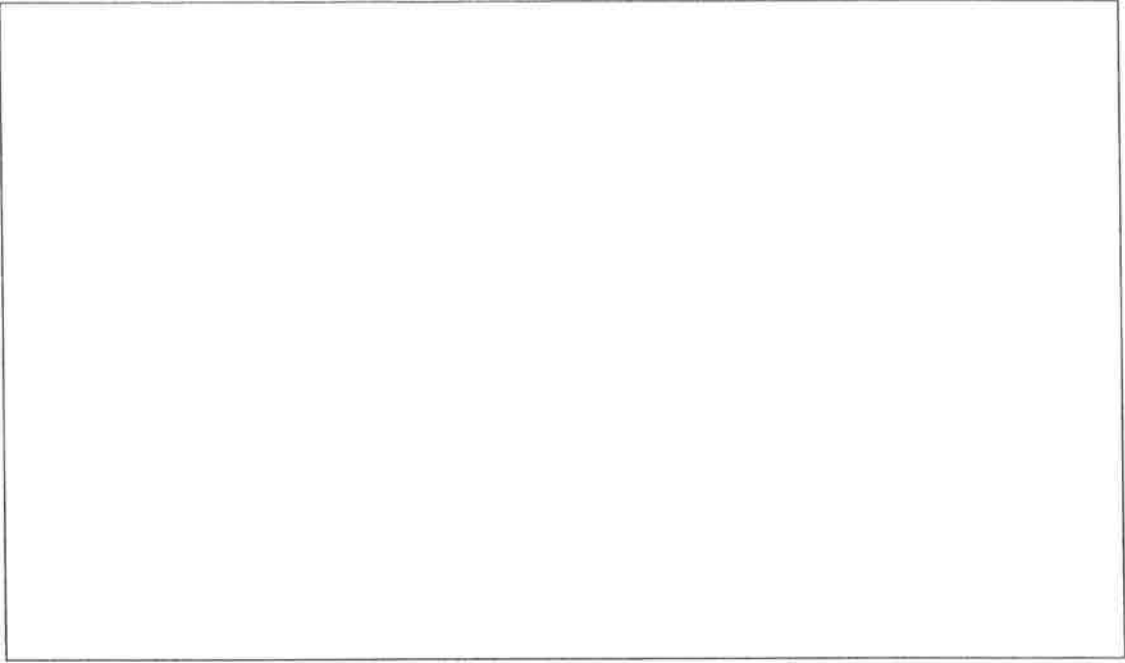
2.10.4 The Authority invites industry views on interest in TDD uplink focused spectrum.

2.11 Operators opinion on one TDD-operator instead of every operator having parts of TDD spectrum

2.11.1 The Authority invites industry views on the TDD spectrum bundling of IMT450, IMT750 and IMT2600 and assignment to one (wholesale) operator.

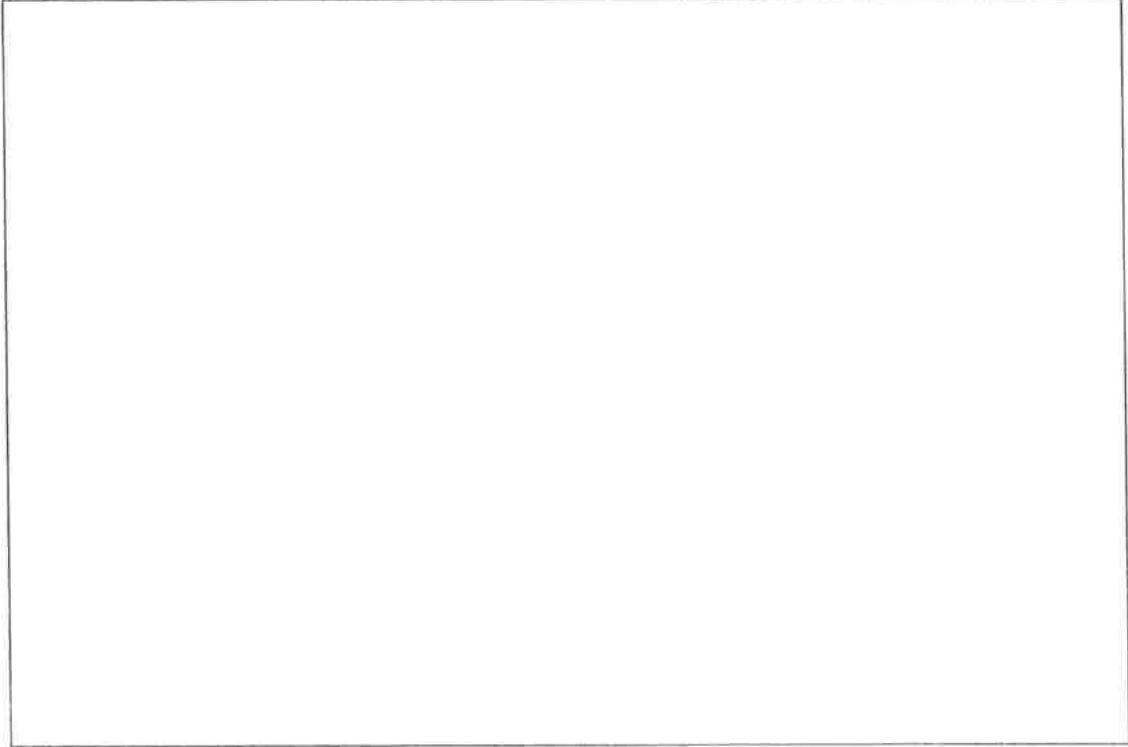
Transnet is concerned that if the Authority proposes to allocate 3 bands such as 450MHz, 750 MHz and 2600MHz to one wholesale operator then wholesale-open access for rural, semi-urban and urban areas to be under the ambit of one operator, assuming a commercial operator. Mission critical bandwidth is required continuously for safe rail operations. The concern is that Transnet will not be prioritised by the commercial operator, whose objective differ from that of Transnet and as a consequence Transnet will lose configuration management and inevitably be dependent on an commercial wholesaler that does not have Transnet as a priority customer.

2.11.2 The Authority invites industry views on the operator interest in individual IMT3500 assignments per operator or in one assignment to one (wholesale) operator.



2.13.1 The Authority invites industry views on licence obligations for new and existing IMT bands, including infrastructure sharing.

2.13 Capacity licence obligations for new and existing IMT bands



2.12.1 The Authority invites industry views on universal service obligations for lower frequency bands (sub-1GHz).

2.12 Universal service obligations for lower frequency bands (sub-1GHz)

2.14 Additional input

2.14.1 The Authority requests any other inputs that are deemed necessary and appropriate which should be taken into consideration.

