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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** |
| Title | **Clarification of System Parameters and Mode Transition** |
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| Re: | Call for Contributions: Multi-tier Networks (16-13-0152-01-000q) |
| Abstract | The purpose of this contribution is to clarify system parameters and mode transition procedure. |
| Purpose | To discuss and adopt the proposed texts in IEEE P802.16q AWD |
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# Abbreviations, missing Parameters and Some Editorial Corrections

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# Introduction

This contribution proposes some text changes to add some parameters and to clarify mode transition procedure.

# Proposed Texts

----------------- Start of the text proposal --------------------------------------------------------------------------------------

[*Remedy 1: Change texts on page 15 as follows:*]

**4. Abbreviations and acronyms**

***Insert the following abbreviations in alphabetical order:***

CSG closed subscriber group

CT cooperative transmission

IM interference management

OSG open subscriber group

[*Remedy 2: Change texts on page 60 as follows:*]

A small BS transitions through multiple states during its operation, as illustrated in Figure ~~15~~17-1. On Power- On, it enters the Initialization State. In this state, procedure like configuration of radio interface parameters and time/frequency synchronization should be performed. After attachment to service provider’s core network, which may include synchronization to the Macro BS, it enters the Operational State. In the Operational State, if the small BS becomes unattached to the service providers network or if it fails to meet operational requirements (may include failed synchronization), it reverts to the Initialization State.

In the Operational State, normal mode and duty-cycle mode~~s~~ are supported. In duty-cycle mode, the small BS reduces radio interface activity in order to reduce interference to neighbor cells. A further functional description of duty-cycle mode of small BS can be found in 17.4.2.

In Standby State, only standby mode is supported. In standby mode, the small BS deactivates its air interface except backbone network interface to reduce power consumption and interference to neighbor cells. A further functional description of standby mode of small BS can be found in 17.4.3.

[*Remedy 3: Change texts on page 61 as follows:*]

**17.1.4 Small BS initialization and network exit**

**17.1.4.1 Small BS initialization**

The small BS shall perform small BS initialization procedures to register itself to the network and to config­ure itself through the backhaul connection. During the initialization procedure, the small BS obtains and configures small BS operation parameters from a network entity and negotiates the small BS capability such as support of duty-cycle mode and standby mode with the network entity. The details of small BS initialization procedure ~~including obtain­ing and configuring small BS air interfaces operation parameters through the backhaul connection~~ are out of scope of this specification.

[*Remedy 4: Change texts on page 65 as follows:*]

**17.2.2 Idle mode**

A small BS may support idle mode.

A small BS that supports idle mode shall follow the same procedure as specified in 6.3.22 for macro BSs with the exceptions given in this subclause.

A CSG-Closed BS shall not broadcast paging for a non-member MS.

~~An MS with CSG white list shall not attach to an unsubscribed CSG-Closed small BS in Idle mode.~~

An MS in Idle mode shall not attach to an unsubscribed CSG-Closed small BS.

[*Remedy 5: Change Table 6-15 as follows:*]

|  |  |  |  |
| --- | --- | --- | --- |
| Type | Message name | Message description | Connection |
| … | … | … | … |
| 53 | MOB\_NBR-ADV | Neighbor advertisement message | Broadcast or primary management |
| … | … | … | … |
| 144 | IM\_CT-REQ | IM Multi-BS CT Request | Basic |
| 145 | IM\_CT-RSP | IM Multi-BS CT Response | Basic |
| ~~110~~146-255 |  |  |  |

[*Remedy 6: Insert the following row at the end of Table 10-1 as follows:*]

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| System | Name | Time reference | Minimum value | Default value | Maximum value |
| BS | Standby\_Mode\_Activation | The BS enters standby mode at the expiration of Standby\_Mode\_Activation timer | 30 min | - | - |
| BS | Standby\_Mode\_Deactivation | The BS terminates standby mode at the expiration of Standby\_Mode\_Deactivation timer | 30 min | - | - |

[*Remedy 7: Change subclause 17.4.3.2 as follows:*]

**17.4.3.2 Standby mode termination**

A BS in standby mode shall go back to normal mode if Standby\_Mode\_Deactivation timer is expired or it receives a transition request from the BS power controller. The BS shall initialize and activate the air inter­face as specified in 17.1.4 before going back to normal mode. ~~The details of the BS initialization procedure including scanning, synchronization and obtaining configuration parameters for the BS air interface operation through the back­haul connection is [TBD].~~ The BS shall activate Standby\_Mode\_Activation timer after the mode transition is completed if time-based transition is enabled.

[*Remedy 8: Change Figure R-1 on page 77 as follows:*]



Figure R-1 – BS operation mode transition

----------------- Start of the text proposal --------------------------------------------------------------------------------------