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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** | |
| Title | **Proposed text changes to BS power management on system requirements** | |
| Date Submitted | **2013-05-14** | |
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| Re: | In response to the IEEE 802.16 Working Group Call for Contributions: IEEE Project P802.16q Multi-tier Networks (IEEE 802.16-13-0064-01-000q) | |
| Abstract | The contribution proposes the text changes for system requirements on base station power management. | |
| Purpose | To discuss and adopt the proposed text in the System Requirement Document (SRD) on IEEE Project P802.16q Multi-tier Networks | |
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**Proposed text changes to BS power management on system requirements**

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1. **Introduction**

This contribution proposes the text changes to BS power management defined in the SRD draft working document [1]. Multi-tier access network architecture consisting of macro cell and a variety of overlaid smaller cells is good approach for energy saving through the BS power management according to various metric such as number of MSs to be attached, traffic load to be served, etc. In the marketplace, there can be deployed together IEEE 802.16q system and legacy system, which can’t cooperate with each other in multi-tier network. Although the BS conformable to IEEE 802.16q function is deployed in this coexistence environment with legacy system in multi-tier network, it is needed to consider the energy saving operation in almost blank period of system by individual determination of single BS for conserving power consumption, different from other scope such as enhanced interference mitigation and mobility management.

So, This contribution propose the text change on system requirements to support the BS power management by individual determination for itself even though it doesn’t cooperate with legacy system in coexistence environment in the current draft SRD document [1].

1. **References**
2. IEEE 802.16-13-0020-00-000q, [Draft Working Document] IEEE P802.16q System Requirement Document, Jan. 16, 2013
3. **Proposed Texts**

[Added texts and figures marked in blue font with underline and removed texts and figures ~~marked in red font with strikeout~~]

------------------------------------------- Start of Proposed Text Changes --------------------------------------------

***[Remedy #1: Adopt the following modification text in line 16 on page 4 section 5.3 in draft SRD [1] ]***

In order to support the IEEE 802.16q Multi-tier Network operations, following function shall be included over existing IEEE 802.16 protocol.

* BS Power Management

“BS Power management” is a ~~fuction~~ function that supports energy saving of base stations by cooperation among base stations in multi-tier networks.

***[Remedy #2: Adopt the following modification text in line 11 on page 6 section 6.3 in draft SRD [1] ]***

# *Base Station Power Management*

### The 802.16q system shall support cooperation of adjacent base stations for energy saving of base stations.

#### The 802.16q system shall support ~~mangement~~ management information exchange among adjacent base stations for power saving.

#### The 802.16q system shall support coordinated association of users for power saving operation of base stations

### The 802.16q system shall support additional operation mode of base stations for power saving of base stations.

#### The 802 .16q system shall support additional operational mode with minimum impact on operations of mobile stations.

#### The 802 .16q system shall support duty-cycled operation of the base station.

#### The 802 .16q system shall support transition to/from inactive period in duty-cycled operation.

#### The 802.16q system shall support adaptive configuration of power saving operation according to various metrics (e.g. number of users, traffic loads, etc).

------------------------------------------- End of Proposed Text Changes --------------------------------------------