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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** |
| Title | **Small BS State Diagram** |
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| Re: | Call for Reply Comments on IEEE 802.16 Working Group Letter Ballot #39 |
| Abstract | This contribution proposes a new state diagram for small BS to clarify the transition among operation states and modes. |
| Purpose | To discuss and adopt the proposed texts in IEEE P802.16q draft |
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# Small BS State Diagram

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# Introduction

This contribution proposes a new small BS state diagram to respond with some LB #39 comments that pointed out problems in the current state diagram. Main changes are as follow:

* Addition of reference for service primitives included in the state diagram
* Addition of more detailed information on service primitives in the state diagram
* Clarification of small BS states (Power on/off is not a state)
* Removal of Annex R

# Proposed Texts

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

[*Remedy: Change subclause 17.1.2 as follows:*]

A small BS transitions through multiple states during its operation, as illustrated in Figure 17-1. On Power-on, it enters the Initialization State. In this state, procedure such as configuration of radio interface parameters and time/frequency synchronization should be performed. After attachment to the 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, both normal mode and duty-cycle mode 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 and related service primitives can be found in 17.4.2 and 14.2.12, respectively.

In Standby mode, 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 and related service primitives can be found in 17.4.3 and 14.2.12, respectively.



Figure 17-1 – Functional overview of small BS states and operational modes

[*Remedy: Remove Annex R*]

----------------- End of the text proposal --------------------------------------------------------------------------------------